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MOTHER AND BLIND CHILD, THE INFLUENCE OF CHILD-REARING PRACTICES ON THE BEHAVIOR OF PRESCHOOL BLIND CHILDREN.

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THE BEHAVIOR OF PRESCHOOL BLIND AND PRESCHOOL SIGHTED CHILDREN AND THE RELATIONSHIPS BETWEEN THE BEHAVIOR OF MOTHERS AND CHILDREN WERE STUDIED. SUBJECTS WERE 10 BLIND AND 12 SIGHTED CHILDREN FROM THREE TO SIX YEARS OF AGE AND FROM NONIMMIGRANT, UNBROKEN CAUCASIAN FAMILIES OF AVERAGE SOCIOECONOMIC STATUS AND CHRISTIAN BACKGROUND. A SYSTEMATIC BEHAVIOR OBSERVATION TECHNIQUE WAS USED TO OBSERVE EACH CHILD IN HIS HOME ENVIRONMENT. RESULTS SHOWED SIGNIFICANTLY GREATER INTERACTION WITH ADULTS BY BLIND CHILDREN THAN BY SIGHTED CHILDREN, NO SIGNIFICANT DIFFERENCES IN THE AMOUNT OF SELF-INSTIGATED BEHAVIOR BETWEEN GROUPS, AND MORE SELF-INSTIGATED BEHAVIOR AIMED AT THE MOTHER BY BLIND CHILDREN THAN BY SIGHTED CHILDREN. BLIND CHILDREN'S SELF-INSTIGATED BEHAVIOR AIMED AT THE MOTHER WAS CATEGORIZED AS 51 PERCENT SUCCORANT, 30 PERCENT SOCIABILITY, AND 14 PERCENT DOMINANCE. NO SIGNIFICANT DIFFERENCES WERE FOUND AMONG THESE THREE TYPES OF ACTS FOR THE SIGHTED CHILDREN. IN RELATION TO THEIR MOTHERS, BLIND CHILDREN TENDED TOWARD SUCCORANCE AND SOCIABILITY, AND SIGHTED CHILDREN TENDED TOWARD DOMINANCE AND NURTURANCE. THE BEHAVIOR OF BLIND CHILDREN WAS NOT AS VARIABLE AS THAT OF SIGHTED CHILDREN. SUCCORANCE WAS THE CHARACTERISTIC WHICH MOST CLEARLY DISTINGUISHED THE BEHAVIOR OF BLIND AND SIGHTED CHILDREN. MOTHERS OF BLIND CHILDREN WERE COMPLIANT TO ABOUT HALF OF CHILDREN'S SUCCORANT BEHAVIOR. MOTHERS OF SIGHTED CHILDREN EITHER COMPLIED VERY MUCH OR VERY LITTLE TO SUCH BEHAVIOR. MOTHERS OF BLIND CHILDREN USED REFUSAL AND IGNORING AS WAYS OF NOT COMPLYING, WHILE MOTHERS OF SIGHTED CHILDREN RELIED ALMOST TOTALLY ON REFUSAL. A NUMBER OF SIGNIFICANT RELATIONSHIPS WERE FOUND BETWEEN THE BEHAVIOR OF BLIND CHILDREN AND THEIR MOTHERS. THE AUTHOR CONCLUDED THAT THE DEGREE OF SELF RELIANCE IN A CHILD IS BETTER PREDICTED FROM THE MOTHER'S COMPLIANT BEHAVIOR THAN FROM THE EXISTENCE OF BLINDNESS IN THE CHILD. THIS DOCUMENT IS AVAILABLE FROM THE AMERICAN FOUNDATION FOR THE BLIND, 15 WEST 16TH STREET, NEW YORK, N.Y. 10011. $1.50. (DF)

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by Sadako Imamura, Ed.D.

The influence of child-rearing practices on the behavior of preschool blind children

AMERICAN FOUNDATION FOR THE BLIND

THE INFLUENCE OF CHILD-REARING PRACTICES ON THE BEHAVIOR OF PRESCHOOL BLIND CHILDREN

MOTHER AND BLIND CHILD

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Research Series Number 14

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FOREWORD

In 1944, the American Foundation for the Blind published a pioneer study, *The Influence of Parental Attitudes and Social Environment on the Personality Development of the Adolescent Blind* by Vita Stein Sommers. Since that time, the role of the parents of blind children and the effects of their attitudes on the personality development of their children have engaged the attention of many investigators.

The present monograph is based on a doctoral dissertation entitled The Influence of Child-Rearing Practices on the Behavior of Preschool Blind Children, which was submitted to the Graduate School of Education, Harvard University in 1962. The primary purpose of the study was to compare the behavior of preschool blind children and sighted children, and to determine what relationships, if any, might exist between the children's behavior and that of their mothers. A unique feature of this study is its use of a systematic behavior observation method to record the concrete actions performed by children and their mothers in their natural home environment. Previous studies typically relied on paper and pencil tests, interviews or casual observations.

The American Foundation for the Blind appreciates the opportunity to add this valuable study to the literature available in this field. We are grateful to Dr. Imamura for her permission to publish it.

M. ROBERT BARNETT
Executive Director

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My study would not have been possible without the generous assistance extended to me by many people and organizations. I am especially indebted to the following:

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The blind children and their entire families who kindly accepted my presence in their homes regularly over a long period of time.

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The Division of the Blind, Commonwealth of Massachusetts, Department of Education and the Center for Blind Children, Boston, Massachusetts, without whose cooperation I would not have been able to obtain the subjects for my research.

At the completion of my manuscript, I cannot help feeling deep gratitude to the anonymous American donor whose generous support enabled me to come to the United States and obtain my entire undergraduate education. Without this person's help my graduate study would never have been possible.

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CHAPTER I

INTRODUCTION

Early psychological writings on the subject of blindness seem to be marked by the feeling that the blind are unique beings having essentially different personalities. Concepts such as "mental void" were developed to explain the behavior of the blind. It was assumed that the blind not only have unique personality traits, but that they have more frequent and more severe adjustment problems than do others, and that adjustment approaching complete "normality" is not possible for them. Such categorical separation prevented, for a long time, the application of the available body of theory in the behavioral sciences to the study of blindness. As a result, concern for the interpersonal relationships of the blind, which is so important in the study of personality, is almost completely absent in the literature.

In recent years, however, an attempt is beginning to be made to understand the personality of the blind in relation to their social environment. This new approach to studying the personality of the blind is exemplified by the studies of Sommers (1944) and Norris et al. (1957). The former points out the influence of maternal attitudes on the social adjustment of blind adolescents. The latter investigates the relationship between the blind child's environment (particularly the part provided by the mother) and his level of development.

The present research compares the behavior of preschool blind children and sighted children and seeks to determine what relationship, if any, exists between the children's behavior and that of their mothers. The uniqueness of this study lies in its use of a systematic behavior observation method to record the concrete actions performed by children and their mothers in their natural home environment. Previous studies typically relied on paper and pencil tests, interviews, or casual observations. Heretofore no study had been made of what blind children actually do in their daily lives.

Methodology

Perhaps what characterizes this study most is that it parallels, on a small scale, a large cross-cultural investigation conducted jointly by Harvard, Yale, and Cornell Universities.[1] The Harvard, Yale, Cornell study was designed to gather data on the child-rearing practices and the behavior of young children in six different cultures; New England, Mexico, India, Okinawa, Africa, and the Philippines. The present study parallels the Harvard, Yale, Cornell study in two ways: (a) the same observational method was used in both studies, and (b) the blind subjects included in the present study were matched on certain variables with a group of sighted children in the larger study. The obvious advantage of such a plan is that the wealth of data obtained in the larger cross-cultural research becomes available for comparative analysis. Although it would have been possible to compare the sample of blind children with the samples of children from all six cultures, it was decided to restrict the comparison to the sample of children from New England with whom they shared a common cultural background.

Sample

The sample consisted of twenty-two New England children of whom ten were blind and twelve had normal vision. As pointed out above, the twelve sighted children were originally chosen to be part of the Harvard, Yale, Cornell study. In order to be able to compare the two groups of children, the blind subjects were selected in light of certain characteristics which the sighted children held in common. First, they fell within the age range of three to six years. Second, they came from Caucasian families of average socioeconomic status. Third, they did not come from broken families. Fourth, they came from families with Christian backgrounds. Finally, they were not children of immigrant parents. In addition to these qualifications, it was required that the blind subjects had no more than light perception and that they had no other physical handicap

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[1] The cross-cultural study mentioned here refers to a study of socialization in six cultures sponsored by the Ford Foundation. The three senior investigators are John W. M. Whiting of Harvard University, Irvin L. Child of Yale University, and William W. Lambert of Cornell University. For a more detailed description of the general methodology, the reader is referred to a field guide prepared by the staff of the cross-cultural study (Whiting, et al., 1954). Additional unpublished manuscripts have been prepared by John and Beatrice Whiting of the Laboratory of Human Development, Harvard University.

TABLE 1

Age and Sex Distribution of Blind and Sighted Children

	Sex			
	No. of Sighted		*No. of Blind*	
Age in years	*Males*	*Females*	*Males*	*Females*
Six	1	1	2	0
Five	2	0	2	4
Four	3	4	1	0
Three	0	1	0	1
Total	6	6	5	5

besides blindness. The age and sex distribution of both the blind and sighted children is shown in Table 1. The average age of the sighted boys was four years and eight months and of the sighted girls four years and two months.

The average age of the blind boys was four years and 10 months and of blind girls four years and two months. There was just one month difference between the average age of the blind children as a group (four years and six months) and the sighted children as a group (four years and five months).

Behavior Observation Technique

The behavior observation technique employed in this study was originally developed by the staff of the Harvard, Yale, Cornell study. "The object of this sampling procedure for child observations is not to get a random sample of children's behavior but rather to get a sample of that behavior which is thought to be revelant to the variables of the study" (J. Whiting, et al., 1954). Previous experience showed that it is not possible to observe everything that the child does and that the behavior to be recorded must be limited and well defined in advance if the observation is to be reliable. This observation technique, therefore, limited the behavior to be observed to the following nine categories: dominance, nurturance, succorance, submission, sociability, self-reliance, responsibility, aggression, and achievement-oriented behavior. It should be noted, however, that in the final analysis of data achievement-oriented behavior was dropped and aggressive behavior was divided into two categories (sociable aggression and nonsociable aggression). When it came to the final analysis of the behavior, the attempt to analyze achievement-oriented behavior was given up since it proved impossible for the observer to isolate the behavior which fitted the definition, i.e., achievement-oriented behavior consists of acts which indicate attempts to evaluate one's behavior by referring to standards of excellence and striving to behave so as to merit a high place in the scale of standards of excellence.

These nine categories of behavior were defined in terms of specific acts. A description of the behavior categories will be presented when we come to the analysis of the observation protocols. The investigators "took the position that there are certain transcultural modes of interaction which, although dressed each in their own cultural clothes, were nevertheless identical in psychological meaning and hence comparable across cultures" (J. Whiting, 1958). In other words, it was assumed that in all societies, one could expect to find children hurting one another, helping one another, attempting to dominate one another, submitting to one another, being friendly to one another, and so forth. It is the means of expressing these psychological variables which may vary among different societies. For example, to express one's aggression, "kicking might be the preferred means in one society, slapping in another, insulting in a third" (J. Whiting, 1958).

In observing the child's behavior, the attention of the observer was constantly focused on the interactive process in which the child was engaged. The child's behavior was conceived of as a series of interactions. Each interaction was defined as consisting of three distinct components, namely, instigating act, central act, and effect act. Lists of instigating, central, and effect acts will be found on pages 8-10.

Instigating acts are those acts performed by another person(s) which evoke responses from the child who is being observed. Central acts are those acts performed by the child being observed. Two types of central acts were specified: (a) those performed in response to the instigating acts of another person(s), and (b) those performed without any apparent instigating acts by another person(s). The latter type of central act will be referred to as a self-instigating act in the present thesis. Self-instigated acts were recorded in order to check what the child is apt to do when apparent instigation by another person is absent and he is free to initiate acts on his own. The findings about the child's behavior reported in Chapter 2 are based mainly on an analysis of self-instigated acts. Effect acts are those acts performed by another person(s) in response to central acts performed by the child being observed.

Because the observation technique was prepared for the purpose of cross-cultural study, the acts included in the list of instigating acts, central acts, and effect acts are of such a nature that they might occur in the life of a child in any society. The observer is supposed to be familiar with the cultural background and the customs of the children he is observing so that he will be able to recognize instigating, central, or effect acts even when expressed in ways peculiar to that culture.

To further illustrate the three components of which an interaction consists, let us look at the following example.

> *A mother tells her child to wash his hands. The child refuses to wash his hands. The mother shouts to the child, "Go, wash your hands." The child goes and washes his hands.*

This is an interaction in which the mother's telling the child to wash his hands is the instigating act, the child's refusal is the central act, and the mother's shouting to the child, "Go, wash your hands," is the effect act. Occasionally, an effect act becomes the instigating act of the next interaction, as is the case in our example. The mother's shouting, "Go, wash your hands," is the effect act of the first interaction (results from the child's refusal to obey), but it also serves as the instigating act in the second interaction (leads to the child's going to wash his hands). Of course, not all interactions have these three components. As was noted earlier, some of the child's acts are self-instigated. For example, a child might invite his friend to join in a game without apparent instigation either from his friend or another person(s).

It should be mentioned here, that if the child failed to respond in a social situation where his response was ordinarily expected, the observer was instructed to record this failure to respond. If other people did not respond to acts on the part of the child being observed when such responses were ordinarily expected, this failure to respond was also recorded. Failure to respond, or absence of act, in situations where such responses or acts would normally be expected was termed "ignoring."

The observation method required that the same child be observed at least 20 different times and that each observation last for five minutes.

However due to illness and other inconveniences which developed in the homes of eight children, not all 20 observations could be completed. These eight children were observed 13 times on the average. During each actual observation, the interactive process described above was used only as a framework to guide the attention of the observer. The observation protocol was written like a story in which events develop around the main character (i.e., the child being observed) who is the center of reference. The instigating acts, central acts, and effect acts were sketched in a running descriptive style, and no effort was made to interpret or categorize the behavior while the observation was being made. A combined list of instigating acts, central acts, and effect acts (see Appendix A) was studied carefully by the observers before they went into the field, so that when these acts occurred they would be recorded.

In the present study, the type of on-going activity (setting) observed was restricted to casual social interaction at home. It should be noted that during the observation period the mother was usually at home within reach of the child. By restricting the type of setting observed, a systematic record was obtained of the interaction between the child and the mother in the home. Such a record was required in order to answer the questions posed earlier in this chapter.

The sighted subjects with whom the blind subjects are compared in the present study were observed by Dr. and Mrs. Fischer. The blind subjects were observed by the author. As far as it was possible, the observers tried to space their observations of each child over a period of several weeks. By doing this, it was hoped that the sample of behavior obtained would be as little biased as possible by the temporary mood the child happened to be in on a given day. Furthermore, in order that the observers be alert on the job and their observations reliable, they were encouraged not to make more than five five-minute observations a day. However, after a year of experience using the observation technique, the present investigator increased the number of five-minute observations made on any given day.

Prior to the beginning of the present study, the researcher was trained in the five-minute behavior observation technique at the Harvard University Laboratory of Human Development by the staff of the cross-cultural study. The researcher was trained to observe both blind and sighted children, and the reliability of these observations was tested and considered satisfactory.

Analysis of the Observation Protocol

Once the behavior protocols of the blind and sighted children were completed, it was necessary to classify the behavior, described in ordinary language on the protocols, into units of behavior which would allow a more systematic analysis. The same method was used to analyze the data on both the blind and sighted subjects. It included six separate steps.

The first step in the analysis was to "map" the content of the protocol so as to indicate the sequence of events which transpired over time and the people who interacted with the child. This was done by recording the acts performed by different persons in separate columns in the order in which they occurred. The number of columns on the map depended on the number of people who were present in the observational scene. The identity of each person, i.e., his age, sex, and relationship to the child being observed, was indicated at the top of each column.

In the second step, the events that happened during the five-minute observation period were broken down into units of behavior, interactions, and each interaction was marked with a Roman numerial denoting the order in which it occurred.

In the third step, each interaction was subdivided still further into its three components: instigating act, central act, and effect act. Arabic numerals were used to indicate these three kinds of acts. Arabic numeral 1 indicated an instigating act, 2 indicated a central act, and 3 indicated an effect act.

The fourth step represented the process of coding the instigating, central, and effect acts. Each act was categorized by assigning it an act number (see pp. 8-10 for the numbers representing each act). To illustrate, P's hitting his mother was coded, 10 → Mother, whereas a mother hitting P was coded, 10 → P. All acts considered theoretically relevant to the problem of the study was coded in this way. Those acts not considered relevant were discarded.

Three problems arose in the course of categorizing the acts, and a procedure had to be worked out for handling them. First, certain acts were found to have a dual nature. For example, the act of giving a suggestion (act #20) was thought to be basically dominant in nature, but sometimes it was found that a suggestion was given nurturantly. Thus this act took on nurturant as well as dominant characteristics. Acts which had this dual nature were coded in the fashion described above, but qualified with an adverb, e.g., $20 \xrightarrow[\text{nurturantly}]{} P$. A complete list of the adverbs used to qualify acts may be found on page 10. Second, it was found that a given act could vary with respect to its purpose or goal. The nature of the actor's intent, therefore, had to be taken into consideration. For instance, a child might grab property (act #14) just to discomfort another, because he wanted the property for some reason, or because someone had taken the property away and he wanted it back (Beatrice Whiting). All three of these acts, although aggression, vary in intent. The first type was labeled as goal aggression ($14 \xrightarrow[\text{goal}]{} 0$), the second type as instrumental aggression ($14 \xrightarrow[\text{instrumental}]{} 0$), and the third type as retaliatory aggression ($14 \xrightarrow[\text{retaliatory}]{} 0$). A list of words used to describe the purposive nature of acts is presented on page 11. Finally, it was found that acts might vary with respect to their expressiveness (e.g., excitedly, sadly, happily), rate (e.g., quickly, slowly), and intensity (e.g., mildly, severely). For example, a child might comply to O's command (act #31) happily ($31 \xrightarrow[\text{happily}]{} 0$) or sadly ($31 \xrightarrow[\text{sadly}]{} 0$), or he might give help to O (act #50) quickly ($50 \xrightarrow[\text{quickly}]{} 0$) or slowly ($50 \xrightarrow[\text{slowly}]{} 0$), and he might kick O (act #10) severely ($10 \xrightarrow[\text{severely}]{} 0$) or mildly ($10 \xrightarrow[\text{mildly}]{} 0$). A list of words used to qualify the expressiveness, rate, and intensity of acts is shown on page 11.

The fifth step involved the purely mechanical work of transferring the coded information onto IBM cards. Each IBM card represented one interaction. The instigating act, central act, and effect act were punched into the card along with the identity of the individuals who performed these acts.

List of Acts[1]

00. No response or non-ascertainable
01. Punished physically
02. Withholds reward
03. Miscellaneous reward
04. Miscellaneous punishment
05. Isolates: threatens to send away
06. Frightens: threatens action by supernatural

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[1] Since the lists of instigating acts, central acts, and effect acts are the same except for a slight modification in the list of instigating acts, only one list is presented. The list of instigating acts includes additional environmental situations (acts number 80-89).

07. Teachers
08. Reprimands: negative suggestion after the fact
09. Warns: threatens natural consequence of act

10. Assaults on person
11. Insults
12. Threatens physically (by gesture)
13. Threatens punishment by speaker
14. Takes property against desire of possessor
15. Destroys property
16. Accuses of deviation
17. Reports deviation

20. Suggests
21. Arrogates self
22. Challenges to competition
23. Refuses to comply
24. Is self-reliant
25. Blocks
26. Accepts challenge

30. Gives up set
31. Complies
32. Deprecates self
33. Hides
34. Avoids
35. Acts shy

40. Encounters difficulty
41. Hurts self
42. Acts hurt
43. Asks for help (includes food, object if obvious succ.)
45. Seeks approval
46. Seeks physical contact
48. Asks permission

50. Gives help (includes giving food, object, if obvious hurt.)
51. Gives emotional support or affection
52. Gives information
53. Gives approval
54. Gives permission

60. Joins group interaction
61. Greets
62. Observes, listens

63. Shows pleasure
64. Starts group game
65. Is sociable—imitates friendly interaction, etc.

70. Deviates
71. Having unsharable object
72. Is tempted
73. Admits guilt
74. Denies guilt
75. Makes amends
76. Apologizes
77. Resists temptation

80. Adults working
82. Adults interact
83. Mother or adult nurtures sibling
84. Children working
85. Children playing
86. Children fighting
87. Encounters danger
89. Encounters something requiring responsible action

90. Ignores
91. Breaks interaction
92. Solitary play
93. Practices skill
94. Is responsible
96. Solitary work

List of Adverbs Used to Describe the Dual Nature of Acts

- Aggression
  - angrily
  - aggressively
  - insultingly
  - contemptuously
  - teasingly
  - frustratingly
- Responsibility
  - responsibly
- Achievement
  - achievementlly
  - carefully
  - persistently
  - successfully
  - unsuccessfully
- Succorance
  - succorantly
  - beggingly
  - wheedlingly
- Self-reliance
  - self-reliantly
- Nurturance
  - approvingly
  - nurturantly

- Sociability
  - playfully
  - sociably
- Dominance
  - braggingly
  - boldly
  - commandingly
  - disapprovingly
  - dominantly
  - reprimandingly
  - rudely
  - teachingly
- Submission
  - shyly
  - submissively
  - obediently
  - politely
  - frustratedly
  - fearfully

List of Adverbs Used to Qualify the Purposive Nature of Acts

- Accidental
- Instrumental
- Imitative
- Goal
- Adult role
- Instrumental retaliatory
- Instrumental—adult role
- Instrumental—imitative

List of Adverbs Used to Qualify the Expressiveness, Rate, and Intensity of Acts

- Excitedly
- Calmly
- Quickly
- Slowly
- Happily
- Sadly
- Actively
- Passively
- Smilingly
- Cryingly
- Curiously
- Endeavoringly
- Ambivalently
- Randomly
- Uncertainly
- Guiltily
- Justifyingly
- Self-consciously
- Secretly
- Shyly
- Irresponsibly
- Carelessly
- Intently
- Mildly
- Physically
- Verbally

Finally, the sixth step represented the procedure called summary coding. Summary coding consists of grouping together individual acts into more general categories. This procedure was necessary in order that an overall comparison of the behavior of blind children and their mothers and sighted children and their mothers could be presented in Chapter 3. To obtain an overall view of the child's behavior, central acts were grouped into nine general categories. Descriptions of these nine categories of behavior along with examples of the behavior classified under each are presented below. The examples of specific behaviors are relevant to New England culture.

Dominance: In a relation with another person or group, dominance consists of P's (the particular child being observed) demanding that O (the other person) act in certain ways, P's attempting to subtly direct O's responses without making formal demands, P's enforcing demands, or P's attaining a social position which will increase facilities for enforcing demands (e.g., P gives a command to O, "Go and shut that door," or P teaches O, "This is the way to do it").

Nurturance: In the presence of knowledge that O is in a state of need or drive, nurturance consists of P's trying to alleviate this state in O (e.g., P picks up a crying baby and says kindly, "You are a good baby," or P helps O find a toy O lost).

Succorance: In the presence of a drive which could be reduced either by the nurturant response of O, or in some other way (e.g., by self-reliant behavior, cooperative interaction as equals, dominance, aggression), succorance consists of P's awaiting the nurturant response of another, or P's signaling to another the wish for nurturance (e.g., P asks O to help him put his coat on when P can do it himself, or P cries when O refuses what P wants).

Submission: In the presence of demands or suggestions or hints by O or O's that P act in a way specified by O, submission consists of P's conforming to these demands (e.g., P says to O, "Yes, I'll do it," or P apologizes to O, "I am sorry, I shouldn't have done it").

Sociability: In the presence or prospective presence of other people, especially of other people who are making a friendly approach (as if in expectation of direct reciprocation), sociability consists of P's making a friendly response, P's engaging in activities together with others, P's cooperating for the sake of social interaction (e.g., P greets O, "How are you," or P starts a group game). While defined to include behavior toward persons of a superior or inferior status, more or less resourceful or needy, providing that the behavior itself involves reciprocity as equals, sociability is less likely to be confused with nurturance and succorance if measured only in behavior toward peers).

Self-reliance: In any situation, self-reliance consists of P's initiating a response-sequence and P's being reliant upon his own responses in reaching a goal (e.g., P gets a ladder to reach the top of a cupboard instead of asking O to reach it, or P tries to move a very heavy thing by himself even if it takes a long time to do it).

Responsibility: In any situation, responsibility consists of P's playing some part of a generally expected role in performing a duty without immediate direction by another (e.g., P puts toys back in a cupboard after finishing playing with them without being told, or P cleans his cat's sandbox without being told to do so).

Nonsociable aggression: In any situation, nonsociable aggression consists of P's physically hurting, insulting (defined as any derogation of status), or magically manipulating O with the intent of injuring O (e.g., P hits O to hurt O, or P says to O, "You are stupid," to hurt his feeling).

Sociable aggression: In any situation, sociable aggression consists of P's physically hurting, insulting, or magically manipulating O with the intent of being sociable to O (e.g., P trips O to be playful, or P calls O with a friendly smile, "You, idiot").

In order to study the mother's overall behavior toward the child the mother's instigating acts were grouped into eight general categories. Descriptions of these eight categories of behavior along with examples of the behavior classified under each are presented below.

Dominance: In an interaction with P, Mother's dominance consists of Mother's demanding that P act in certain ways, Mother's attempting to subtly direct P's responses without making formal demands, Mother's enforcing demands, or Mother's attaining social position which will increase facilities for enforcing demands (e.g., Mother reprimands P, "Don't do that," or Mother commands P, "Be quiet").

Succorance: In the presence of a drive which could be reduced either by the nurturant response of another person, or in some other way (e.g., by self-reliant behavior, cooperative interaction as equals, dominance, aggression), Mother's succorance consists of Mother's awaiting the nurturant response of P, Mother's accepting the nurturant response of P, or Mother's signaling to P the wish for nurturance (e.g., Mother asks P, "Please help me button my blouse in the back," or Mother asks P, "Would you rub my back because Mommy has stiff shoulders").

Sociability: In the presence or prospective presence of P, especially of P who is making a friendly approach (as if in expectation of direct reciprocation), Mother's sociability consists of Mother's making a friendly response, Mother's engaging in activities together with P, Mother's cooperating for the sake of social interaction (e.g., Mother asks P, "Did you have a good time?" or Mother sings a song with P to have fun together).

Noncompliance: In the presence of a clear indication that Mother act in a way specified by P, Mother refuses to match P's desire, or Mother chooses not to make a response (e.g., Mother says to P, "No," in response to P's request, "Mommy, play with me," or Mother ignores P who says angrily to her, "I don't like you").

Nonsociable physical aggression: In an interaction with P, Mother's nonsociable physical aggression consists of Mother's punishing P physically, Mother's assaulting P, Mother's threatening P physically or by gesture, Mother's taking P's property against his desire, Mother's destroying P's property, or Mother's blocking P physically from what P wants to do (e.g., Mother spanks P, or Mother takes P's toys away).

Sociable physical aggression: In an interaction with P, Mother's sociable physical aggression consists of Mother's assaulting P, Mother's threatening P physically or by gesture, Mother's taking P's property, or Mother's blocking P with the intent of being sociable to P (e.g., Mother chases P to be playful, or Mother takes P's toy as a joke).

Nonsociable verbal aggression: In an interaction with P, Mother's nonsociable verbal aggression consists of Mother's insulting (defined as any derogation of status) P, Mother's threatening P with words, Mother's accusing P of deviation, or Mother's criticizing P (e.g., Mother says to P, "You are acting like a baby," or Mother says to P, "I am going to hit you").

Sociable verbal aggression: In an interaction with P, Mother's sociable verbal aggression consists of Mother's insulting P, Mother's threatening P with words, Mother's accusing P of deviation, or Mothers' criticizing P with the intent of being sociable to P (e.g., Mother calls P in a friendly manner, "You, slow poke," or Mother says to P jokingly, "You goofed").

The method of analysis used in the present study may best be clarified with an illustration. An original protocol and a complete analysis (map) of the protocol are presented on pages 15-16. The protocol and the map presented here are taken from Beatrice Whiting's unpublished manuscript, "Analysis of the Behavior Protocols." In the upper right-hand corner of the map appears the name, age, and sex of the child who was observed (P), the time and date of the observation, and the place where the observation was made. In the upper left-hand corner of the map is the name of the society in which P is a member and the number of the protocol. In our example, the page is divided into four columns. In the fourth column, P's (Antonia's) central acts are recorded. In the third column a description of the environment is recorded. This column happens to be blank in our example because no environmental event relevant to the child's behavior occurred during this observation. In the second column, the acts performed by Bob, one of the children present during the observation, are recorded. In the first column, the acts performed by Roberto, who was also present, are recorded.

There are eight interactions recorded on this protocol. The first is labeled Interaction I. The instigating act is marked with an Arabic numeral 1 in Roberto's column, for he was the instigator. The central act was, by definition, performed by Antonia, the child being observed. It is numbered with Arabic numeral 2 and recorded in the fourth column. The central act is connected by lines to the instigating act and to the effect act. The performer of the effect act is again Roberto and his effect act is recorded in his column with Arabic numeral 3.

An Example of a Five-Minute Behavior Observation Protocol

Society: Mexico
Child's Name: Antonia Bautiste
Time: 12:41–12:46 p.m., May 11, 1954
Setting: Observer's patio
Present: Roberto (friend, boy, 8 years old), Bob (observer's son, 4 years old), Antonia (the child being observed, girl, 5 years old)

Antonia is playing in the patio with Roberto and Bob. Both boys have trucks in their hands and are pushing them around. Antonia is sitting close by. Antonia reaches for the truck of Roberto and gets her hand on it. Roberto pulls it away from her. She gets up from a stooping position and walks along behind the boys slowly, as they push the trucks. She reaches out for Bob's truck. He jerks away quickly. Antonia then leans up against wall and merely watches. Roberto puts his truck down and moves off to get some rocks. Antonia stoops over quickly and puts her hand on the truck and starts to push it. Roberto turns around quickly and grabs for it, pulling it away from her. No words, although Antonia looks very sad, almost ready to cry. Roberto looks up at her, and then hands her a block from the back of the truck. She just looks at it and doesn't take it. Roberto puts it back in truck and drives truck off. Roberto puts truck up on a block of wood, and starts to make a road with his hand. Antonia sidles over slowly to truck and quietly picks it up. She turns it over and spins the wheels, then looks quickly over at Roberto, who doesn't see the action. Antonia turns back and runs truck along block of wood. Roberto looks for truck. Antonia looks back at him over shoulder. (Seems to hide truck with her body.) Roberto goes back to pushing sand with hands. Antonia fingers truck, then puts it behind her and starts making road with other hand like Roberto. Then puts truck down behind her and uses both hands for road. She moves away from block and pushes sand with both hands. Roberto gets piece of wood and uses that. Antonia looks around, finds another just like it and does the same. Neither looks at truck again or goes back to it.

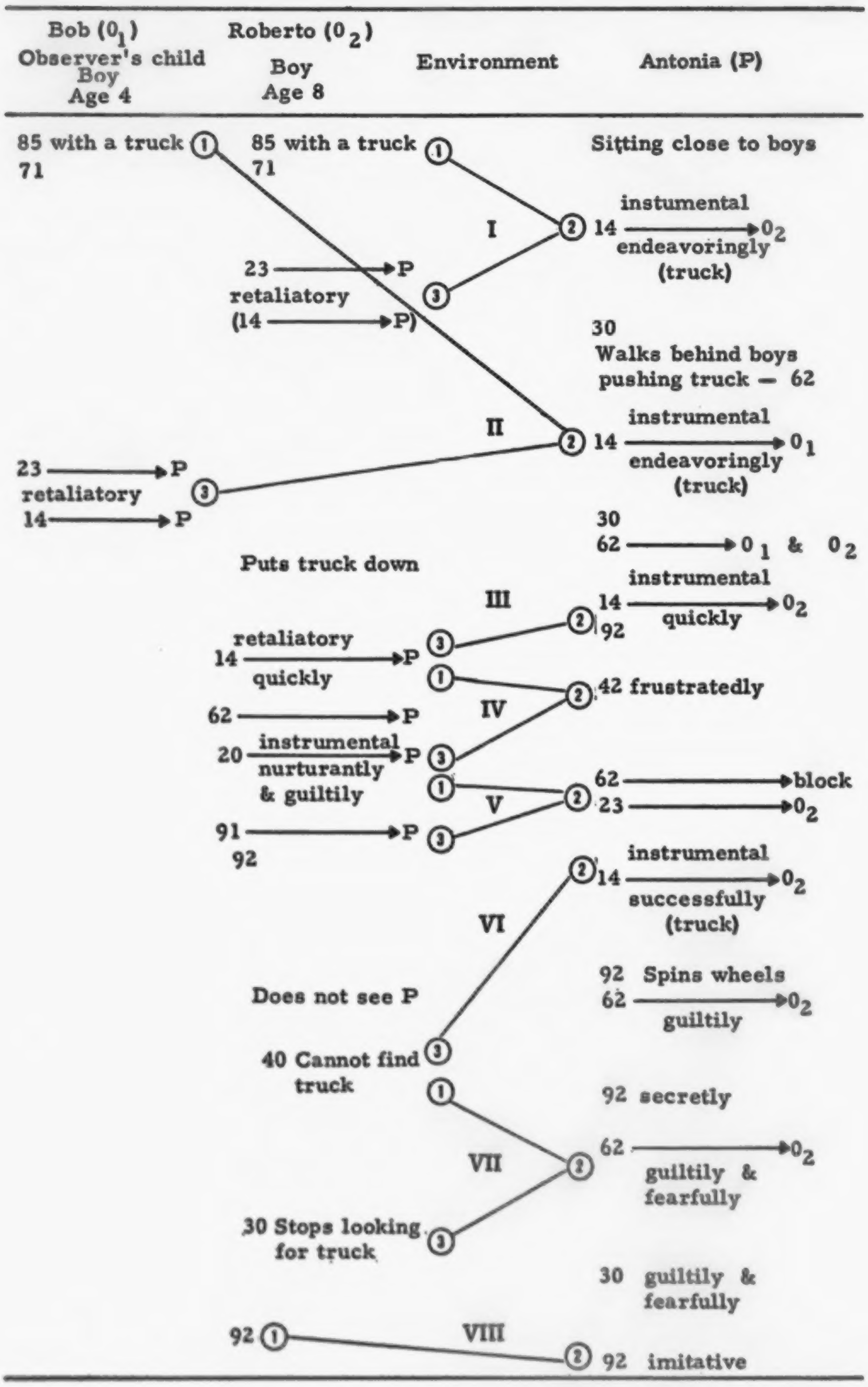
An Example of a Map

Society: Mexico
Protocol No. 4

Child's Name: Antonia Bautiste
Age: 5
Sex: F
Time: 12:41–12:46 p.m., May 11, 1955
Setting: Observer's patio

The protocols of the blind subjects were analyzed by two persons, one of whom was the author. The agreement between these two coders, as well as between these two coders and those who coded the protocols of the sighted children, was checked at the beginning of the analysis. The results were satisfactory. Furthermore, in order to keep the agreement high throughout the period during which the analysis was carried out, the two coders of the blind children's protocols were regularly checked for agreement with those who coded the protocols and the sighted children. These checks showed that their agreement was satisfactorily high throughout the period.

The protocols of the blind subjects were analyzed by two coders (A and B). Prior to the analysis, they had undergone an intensive training in the method at the Harvard Laboratory of Human Development under the supervision of Dr. Beatrice Whiting who also trained the coders for the cross-cultural study. The training was discontinued when the coders reached at least 80% agreement with each other as well as with the person who coded the sighted children's protocols (C). Furthermore, in order to keep this agreement high throughout the period during which


Bob (0_1)
Observer's child
Boy
Age 4
Roberto (0_2)
Boy
Age 8
Environment
Antonia (P)
85 with a truck ①
71
85 with a truck ①
71
Sitting close to boys
I
instumental
② 14 → 0_2
endeavoringly
(truck)
23 → P
retaliatory
(14 → P)
③
30
Walks behind boys
pushing truck — 62
II
instrumental
② 14 → 0_1
endeavoringly
(truck)
23 → P
retaliatory
14 → P
③
30
62 → 0_1 & 0_2
Puts truck down
instrumental
III
14 → 0_2
quickly
②
92
retaliatory
14 → P
quickly
③
①
② 42 frustratedly
62 → P
IV
instrumental
20 → P
nurturantly
& guiltily
③
①
V
62 → block
② 23 → 0_2
91 → P
92
③
instrumental
② 14 → 0_2
successfully
(truck)
VI
92 Spins wheels
62 → 0_2
guiltily
Does not see P
40 Cannot find truck ③
①
92 secretly
VII
② 62 → 0_2
guiltily &
fearfully
30 Stops looking for truck ③
30 guiltily &
fearfully
92 ①
VIII
② 92 imitative

the analysis was carried out, the agreement between A and B, B and C, and A and C was checked at four different times. The results of these checks are shown in the table below.

	Agreement between A and B	*Agreement between A and C*	*Agreement between B and C*
Test No. 1	95%	95%	91%
Test No. 2	95%	83%	79%
Test No. 3	94%	83%	74%
Test No. 4	74%	79%	73%

For the blind subjects, there were altogether 191 protocols, which were broken down into 2,888 interactions. The sighted children had 184 protocols which were broken down into 1,576 interactions. In Chapter 2, the interaction pattern of the blind children will be compared with that of the sighted children. Special attention will be paid to those interactions involving the mother, since the problem of the present study centers around the behavior of the child and his mother toward each other.

CHAPTER II

A COMPARISON OF THE BEHAVIOR OF BLIND CHILDREN AND SIGHTED CHILDREN

On the basis of our observations, the present chapter will describe the behavior of the blind child and his mother toward each other in order to see how their behavior compares with that of the sighted child and his mother. For the sake of convenience, the behavior of the child toward the mother and that of the mother toward the child will be discussed separately.

Before we go into a more specific analysis of the content of their behavior, we will first examine briefly the amount of social contact the child has at home with different people. The analysis of the observation protocols indicates that, in a period of one hour (12 five-minute observations) the sighted children, on the average, interact with people 94 times and the blind children 164 times. The difference between these two frequencies was significant at less than the .001 level. Of the total number of interactions, the sighted children interacted with their mothers 43 per cent, with other children 31 per cent, and the remaining 26 per cent was with adults other than the mother. Of the 164 interactions of the blind children, 60 per cent was with the mother, 20 per cent was with other children, and the remaining 20 per cent was with adults other than the mother. A closer analysis of the percentages of mother-child interactions reveals that there is no difference between the boys in the two groups, but a great difference exists between the girls in the sighted and blind groups. The percentages of mother-child interactions for blind and sighted girls were 73 and 39 respectively, while that of the boys in both groups was 46. The difference between blind and sighted girls was significant at less than the .01 level. Furthermore, among blind children, the percentage of mother-child interactions was significantly greater among the girls than among the boys ($p < .01$). Interestingly enough, among the sighted children, it was the boys who had a larger percentage of interactions with the mother. However, the difference between the sighted boys and girls was not significant.

On the basis of the above analysis, we may conclude that blind children interact with people in general more than do sighted children and that both blind and sighted children interact with their mother more than with any other person at home. In terms of percentage, blind girls interact more with their mothers than do blind boys or do boys and girls in the sighted group. The children who had the lowest percentage of interactions with the mother were the girls in the sighted group.

It should be pointed out here that these figures represent only a rough estimate of the amount of social contact the child has at home. They should be interpreted in light of a number of circumstantial factors which may have influenced the child's rate of interaction. Perhaps, one of the more important of these factors is how available the mother was to the child at the time of observation. We controlled this factor to the extent that all the observations were made at the child's home and at times when the mother was usually within the reach of the child. However, it is possible that the mothers of the blind children stayed nearer to their children than did the mothers of the sighted children and thus encouraged their children to interact with them more often than they might have done otherwise.

The Child's Behavior toward the Mother

In the previous pages, we have briefly examined the amount of social contact the child has at home and pointed out that the greatest part of the child's social interaction takes place with his mother. Our attention in the present section is focused on the content of the child's behavior toward the mother. The behavior of the blind children will be contrasted with that of the sighted children.

As an index of the child's behavior toward the mother, we chose the child's self-instigated acts to the mother because we were interested in finding out the natural action pattern of the child. In the present study, a self-instigated act is defined as any act made by the child in the absence of detectable outside instigation.

We first tried to determine whether there were any differences between blind and sighted children in the extent to which they instigate acts. Our analysis of the observation protocols shows that of all the acts of blind children to their mothers, 33 per cent, on the average, were self-instigated. With sighted children, 40 per cent were self-instigated. This difference between the two groups was not statistically significant. It is of interest to note that among blind children, 32 per cent of the total interactions with other people in general were self-instigated acts, whereas 44 per cent of such interactions among sighted children were self-instigated. This difference between the blind and sighted children is significant at less than the .007 level. When these acts were further analyzed by sex, it was found that 38 per cent of the total interactions of sighted boys with other people in general were self-instigated, whereas 51 per cent of the total interactions of sighted girls with other people in general were self-instigated. Among blind boys and girls the percentages of total interactions with other people in general which were self-instigated was 34 and 31 respectively. The difference between these percentages for sighted boys and girls was significant at less than the .01 level; no such sex difference was found between blind boys and girls. From this analysis, we may conclude that in their interactions with the mother as well as with other people in general, sighted children, on the average, perform more self-instigated acts than do blind children. If we view the extent of self-instigated acts as an indication of the extent of "initiative," then the above findings are in accord with the findings of Barker and Wright (1954) that handicapped childen show less initiative than normal children.

Self-instigated acts were classified into nine behavior categories on the basis of the summary codes described in the first chapter. Then, the frequency of act in each category was transformed into a measure of the rate of each act category and into a measure of probability of each act category. The rate score was computed by dividing the number of acts in a given category by the number of observations. To obtain the probability measure, the number of acts in each of the individual categories was divided by the number of acts in all the categories combined. The rate measure was used to determine at what speed a child performs acts of a certain kind, and the second measure, probability, was used to find out how strong the child's tendency is to perform acts of a given kind. The results of this analysis are shown in Table 2.

According to this analysis, the behavior of blind children toward their mothers is different from that of sighted children in four ways. The first and the most obvious has to do with rate. Over a period of one hour

TABLE 2

Rate and Probability of Children's Self-instigated Acts Directed to Mother

	Rate of self-instigated acts			*Probability of self-instigated acts*		
Categories of self-instigated acts	*Sighted children* ($N = 12$)	*Blind children* ($N = 10$)	*p*	*Sighted children* ($N = 10$)	*Blind children* ($N = 10$)	*p*
Dominance	3.2	3.6	ns	0.30	0.14	0.04
Nurturance	0.5	0.1	ns	0.05	0.00	0.01
Succorance	4.4	13.8	0.001	0.36	0.51	0.01
Submission	0.1	0.2	ns	0.01	0.01	ns
Sociability	2.0	7.6	0.001	0.21	0.30	0.06
Self-reliance	0.0	0.0	ns	0.00	0.00	ns
Responsibility	0.0	0.2	ns	0.00	0.01	ns
Sociable aggression	0.2	0.1	ns	0.02	0.00	ns
Nonsociable aggression	0.6	0.8	ns	0.05	0.03	ns
Total	11.0	26.34	0.001	1.00	1.00	ns

(12 five-minute observations), the blind child performed, on the average, 26.3 self-instigated acts to the mother as against 11.0 for the sighted child. A closer look at the data indicates that the blind children performed significantly more acts than the sighted children in two categories, succorance and sociability. This fact accounts for the substantial difference between the two groups in the rate of total acts. The difference was greatest in the category of succorance.

The second difference between the blind and sighted children occurred in act preference. Among the blind children, by far the most common behavior category was succorance. Of their total self-instigated acts to the mother, 51 per cent were succorant. Their second and third preferred categories were sociability (30 per cent) and dominance (14 per cent). The difference between the categories of succorance and sociability was statistically significant ($p < .05$) as was the difference between the categories of sociability and dominance ($p < .008$). The analysis of the sighted children's acts revealed that succorance, sociability, and dominance were the three most preferred types of self-instigated acts. The analysis did not reveal any definite order of preference, however, among these three behavior categories. The percentages for succorance, dominance, and sociability were 36, 30, and 21, respectively. There were no significant differences among the three. Friedman's two-way analysis

(Siegel, 1956) and the Mann-Whitney test (Lindzey, 1954) were used for the analysis of act preference of both blind and sighted children.

The third difference was found in the variety of behavior shown by the two groups of children. While four types of acts make up 92 per cent of the sighted children's total self-instigated acts to the mother, three types of acts make up 95 per cent of the blind children's total self-instigated acts to the mother. Thus, when we take into consideration both preference and type of act, the blind children's behavior, in comparison with that of the sighted children, may be characterized as lacking in richness and variability.

Finally, the blind children differ from the sighted children with respect to probability of acts occuring in particular categories. The probability of an act occurring in the categories of succorance and sociability among blind children exceeded that of the sighted children; whereas the sighted children show a greater probability of an act occurring in the categories of dominance and nurturance. The two greatest differences were found in the categories of dominance and succorance, but the most significant differences in the categories of nurturance and succorance.

To summarize, we have pointed out four ways in which the behavior of the blind children toward their mothers differs from that of the sighted children. First, in rate, the blind children have higher rates than the sighted children in the categories of succorance and sociability. The difference between the two groups was greatest in the category of succorance. Second, in act preference, the blind children show far greater preference for succorance over sociability and dominance, their second and third most preferred types of acts. The sighted children, on the other hand, do not show any significant differences among their three most preferred types of acts, succorance, sociability, and dominance. Third, the behavior of blind children was different from that of sighted children in its variety. Blind children's acts, in comparison with those of the sighted children, tend to be monotonous and repetitious. Succorance is particularly prevalent. Finally, with respect to the probability of an act category, the blind children exhibit stronger tendencies toward succorance and sociability, and the sighted children toward dominance and nurturance. The difference between the two groups with respect to succorance was found to be one of the greatest as well as one of the most significant.

Further analyses of the child's social interactions suggest that this strong tendency for succorance among blind children is not only restricted to their behavior toward their mothers but also characterizes their behavior toward other people, both children and adults. Likewise, the variety of blind children's acts tends to be as limited when they are interacting with other people as it is when they are interacting with their mothers. Sighted children's tendencies for dominance and nurturance, observed in their interactions with their mothers, was also found in their interactions with other people in general. However, in their interactions with other children, sighted children show no more dominant and nurturant tendencies than do blind children.

When the child's behavior toward the mother was compared with his behavior toward other people in general, it was found that sighted children are more sociable and show greater sociable aggression to other people in general than to the mother. Blind children, on the other hand, were found to express more nonsociable aggression to other people in general than to the mother. The results of these analyses are available in Appendix B.

It seems clear from the analysis above that the characteristic which most clearly distinguishes the behavior of the blind children from that of the sighted children is succorance. The simplest kind of explanation for this succorant behavior of blind children is based on the nature of the physical handicap itself. The blind child has to depend more on help from other people because he is not physically able to help himself as much as is the sighted child. The physical handicap, undoubtedly, accounts for some of their succorant behavior. However, actual observation of the behavior of blind children reveals that they make many succorant acts which are not directed toward seeking physical assistance. This suggests that blindness in itself cannot adequately explain the strong tendency for succorance exhibited by blind children.

Still another explanation has to do with the effect of blindness upon the child's emotional development. In light of some current theories of "infantile omnipotence" (Erikson, 1950; Ferenczi, 1950; Witmer, 1952), Cole and Taboroff (1956) postulate that the infant's sense of omnipotence is correlated with its inability to see. By receiving external stimuli through its senses, the infant progressively enlarges its knowledge of the environment; the "I" or self becomes smaller until its true relationship to the environment or reality is attained. When a child lacks the aid of visual perception, its understanding of the external world is handicapped and the differentiation of self and non-self becomes difficult. How such perceptual limitation influences the process of personality organization in the congenitally blind is still a question. Cole and Taboroff suggest that "their psychological adjustment in a seeing world is a more egocentric one, with their *dependence* always to a degree on the seeing normals" (p. 264, underlining added). The dependent characteristic (succorant tendency) of the congenitally blind may thus be explained in the framework of a theory of "infantile omnipotence," but it should be noted that such a theory is extremely difficult to test scientifically. We will present below other explanations which we believe to be more plausible.

The theory of sensory deprivation provides a third explanation for the behavior of blind children. Studies show that human beings and animals that have been subjected to sensory deprivation frequently suffer hallucinations and sensory "hunger" (Bexton, 1954), and imply that a certain amount of sensory stimulation is important in the maintenance of normal, integrated behavior (Hebb, 1955). The blind children's overly succorant and sociable behavior toward the mother might be explained as an effort on their part to correct a condition of stimulus deficiency which exists due to their blindness. Both their succorant and sociable behavior tend to make the mother respond to them.

It is interesting to compare the behavior of blind and sighted children toward their mothers because of the striking contrast it presents. Whereas blind children may be thought of as being self-centered or dependent because of their succorant and sociable behavior, sighted children may be described as being oriented to the world outside or independent because of their dominant and nurturant behavior. Dominating behavior toward the mother is oriented to the outside world in the sense that the child in so behaving is attempting to make the mother respond to something in the environment aside from himself. Nurturant behavior may also be considered outside-world-oriented because the child is responding here to the needs of the mother rather than to his own needs. The analysis of the child's total acts to the mother (see Appendix B) shows, furthermore, that sighted children, on the average, have a significantly stronger tendency for nonsociable aggression than do blind children. This finding supports the notion that sighted children are more independent than blind children, for nonsociable aggression directed toward the mother tends to drive her away rather than keep her around in order to attend to the child's needs.

In passing it should be mentioned that the theory of sensory deprivation may also be used to explain another kind of behavior prevalent among the blind, blindism. Blindism refers to a set of stereotyped mannerisms peculiar to blind people, such as poking of the eyeball with a finger, jerky movements of the limbs, rocking of the body, etc. Sometimes the eyeball, or eyeballs, are pushed so hard that it is harmful to the eye. These activities, except for the poking of the eyes, are highly repetitive and rhythmic and appear "centrally directed." By this we mean that, when such activity is in full swing, the child seems to be out of contact with the external environment and is difficult to distract. Blindism is present not only among American blind children but is found among blind people all over the world. Since blindism is so grotesque to others, it becomes an additional handicap for blind people and has been of concern to those who work with the blind for many years.

A reasonable explanation based on sensory deprivation theory is that blindism represents a mechanism by which blind people "seek" stimulation. This is pure speculation, for no study has been made of the long-range effect of sensory deprivation on man. However, in an extensive experiment Sprague, Chambers and Stellar (1961) observed the effects of a two and one-half year period of sensory deprivation on the behavior of cats. While we must be cautious about drawing parallels between the behavior of cats and children, one cannot ignore the resemblance of the behavior characterized as blindism to the peculiar, incessant, stereotyped behavior which the cats developed in the experiment.

Before closing our discussion of sensory deprivation as applied to blind children, another study of disabled children should be cited. Barker and Wright (1954) studied children of six and seven years of age with cerebral palsy, congenital heart defect, amyotomin and spina bifida. Their findings bear a striking resemblance to those of the present study. They state that: (a) the disabled children appealed more frequently than the nondisabled children for help from their mothers and also from adults in general (p. 440); and (b) the disabled children tended to have a lower percentage of self-instigated episodes than nondisabled children (p. 297). The similarity between the behavior of blind children and other disabled children suggests that it may not be blindness, per se, or sensory deprivation which causes blind children to be more succorant. Rather, it may be that all physical handicaps, whether they be blindness or cerebral palsy, have a unique impact on the handicapped individual's social interactions which results in a tendency toward succorant behavior on their part. This, however, does not refute the sensory deprivation theory used to account for succorant behavior in blind children. It may be that all physically handicapped people, in varying degrees, suffer from sensory deprivation of one kind or another and thus are more succorant than normal people. Whether or not this is so is an empirical question.

A third explanation of the blind child's succorant behavior is that it is a product of maternal overprotection. Regarding maternal overprotection, Levy (1943) writes that its manifestations in the mother-child relationship may be grouped under four headings: (a) excessive contact, (b) infantilization, (c) prevention of independent behavior, and (d) lack or excess of maternal control. In respect to the fourth heading, he states that there are two types of overprotective mothers: those who are unable to modify the child's behavior and are subservient to the demands of the child, and those who dominate the child. Commenting on the effect of maternal overprotection on the child, he says that the child of the former type of mother, i.e., the overindulged child, tends to show aggressive and dominant behavior toward the mother. The child of the latter type of mother, i.e., the dominated child, on the contrary, tends to be dependent and submissive, and his aggressive tendencies are restrained. Furthermore, these characteristics of overprotected children are carried over into their relationships with children. In other words, children who are dominant and aggressive toward the mother tend to be dominant and aggressive toward children. Likewise, children who are dependent and submissive toward the mother tend to be dependent and submissive toward children. In general, overprotected children tend to have more companionship with their mothers and less with other children than do nonoverprotected children. As a result of this greater association with their mothers, they tend to be more verbal than nonoverprotected children.

Interestingly, Levy's description of the overprotected child indicates that a strong similarity exists between the behavior of blind children and those overprotected children who have dominating mothers. In comparison with sighted children of the same ages, blind children: (a) are more succorant, i.e., more dependent on the nurturance of their mothers, (b) are less aggressive toward their mothers, and (c) are more succorant and less sociably aggressive toward other children. Blind children also exhibit certain characteristics common to overprotected children in general, whether of the indulged or dominated type. In comparison with sighted children of the same ages, blind children: (a) have excessive social interaction with their mothers, (b) have proportionally less interaction with other children and (c) are more verbal.

The statement that blind children are more verbal than sighted children is based on an analysis of the child's motoric and symbolic acts. The child's total acts were classified into two categories: motoric and symbolic. Motoric acts were those acts which involved physical action, such as physical assaults on person, taking property against desire of possessor, seeking physical contact, etc. Symbolic acts where those acts which involved verbal expression or expression by gesture. Examples of symbolic acts are: insults, suggests, asks permission, pointing. It was found that frequencywise blind children performed about an equal amount of acts classified as motoric as did sighted children, but performed significantly more symbolic acts than sighted children ($p < .003$). Proportionwise, 22 per cent of the blind children's acts were motoric and 78 per cent symbolic. Among sighted children, 30 per cent of their total acts were motoric and 70 per cent symbolic. In both motoric and symbolic acts, the differences between the two groups were significant at [illegible] level. Since sighted children perform the gestural type of symbolic acts rarely, it seems reasonable to infer from these findings that blind children are more verbal than sighted children. By this we mean that the blind children perform verbal acts more often and rely on verbalization more than do the sighted children.

These similarities between the blind child's and the overprotected child's behavior behoove us to look upon the maternal treatment of the blind child as a possible explanation of the blind child's behavior, including his marked tendency toward succorance. This is so particularly in view of Sommers' finding (1944) that a close relationship exists between blindness in the child and an overprotective attitude in the mother.

In the second part of this chapter, the behavior of the mothers of blind and sighted children will be analyzed, and a further discussion of maternal overprotection presented. The relationship between the mother's behavior and the succorant behavior of blind children will be examined in Chapter 3. Explanations of the blind child's succorant behavior which take into consideration the interaction between the mother and the child will, therefore, be discussed in that chapter.

The Mother's Behavior toward the Child

In the first part of this chapter, the behavior of blind children was compared to that of sighted children. It was concluded that blind children differ from sighted children in a number of ways, but that the most important difference was in the behavior system of succorance. In this section, the behavior of the mothers of both blind and sighted children will be compared in a similar manner.

As an index of the mother's behavior toward the child, we chose the mother's instigating acts, i.e., acts performed by the mother which instigated acts on the part of the child. These instigating acts were classified into the following eight categories: dominance, succorance, sociability, noncompliance, nonsociable physical aggression, sociable physical aggression, nonsociable verbal aggression, and sociable verbal aggression (see Ch. 1, pp. 13-14). The frequency of the mother's instigations in each category was then transformed into a measure of rate of instigation and a measure of probability of instigation, in the manner described on page 21. The results of this analysis are presented in Table 3.

TABLE 3

Rate and Probability of Mothers' Instigating Acts Directed to Child

	Rate of instigating acts			*Probability of instigating acts*		
Categories of instigating acts	*Mothers of sighted children* ($N = 12$)	*Mothers of blind children* ($N = 10$)	p	*Mothers of sighted children* ($N = 10$)	*Mothers of blind children* ($N = 10$)	p
Dominance	12.2	26.9	0.03	0.58	0.48	ns
Succorance	1.1	1.3	ns	0.04	0.02	ns
Sociability	5.9	15.1	0.01	0.27	0.29	ns
Noncompliance	0.8	8.5	0.0005	0.05	0.16	0.02
Physical aggression, nonsociable	0.5	1.7	ns	0.02	0.02	ns
Physical aggression, sociable	0.1	0.4	ns	0.00	0.01	ns
Verbal aggression, nonsociable	0.4	0.5	ns	0.02	0.01	ns
Verbal aggression, sociable	0.2	0.2	ns	0.01	0.00	ns
Total	21.2	54.6	0.0005	0.99	0.99	ns

Regarding rate of instigation, we find that there is a great difference between the rate of total instigations directed toward the child by the mothers of blind and sighted children. The analysis of the individual categories shows that this difference is due to the fact that the mothers of blind children make significantly more instigations of three kinds: dominance, sociability, and noncompliance.

On the basis of this analysis, it appears that the behavior of the mothers of blind children resembles, in two ways, that of the overprotective mothers described by Levy (1943). First, the mothers of blind children tend to encourage excessive companionship with their children. This finding is supported by casual observations and informal conversations with the mothers of the blind children in the sample. This investigator got the feeling that they sought to guard their children from social contacts outside the home. Such a tendency on the part of a mother, according to Levy, is unfortunate for it prevents the child's growth in the direction of independence and self-reliance. The reader may recall our discussion of maternal overprotection. We cited Levy's finding that mothers of dominating children are indulgent, and mothers of submissive children are dominating. Blind children and their mothers seem to fit this pattern well. Blind children, whom we found to be less dominant and more succorant as a group than sighted children, have mothers who are, as a group, more dominant than the mothers of sighted children.

Of the three categories of instigations in which significant difference between the two groups in rate of instigation were found (dominance, sociability, and noncompliance), the difference in noncompliance was the most significant ($p < .0005$). With respect to probability of instigation, the only significant difference between the two groups was found in the category of noncompliance also ($p < .02$). These findings indicate that noncompliant behavior is crucial in distinguishing the mothers of blind children from the mothers of sighted children and make the understanding of this behavior important. A meaningful interpretation of the mother's noncompliant behavior is not possible, however, unless we also examine her compliant behavior and the behavior of the child preceding her noncompliance—that behavior to which she did not comply. We will, therefore, in the remainder of this chapter, analyze both the mother's noncompliant acts and her compliant acts in relation to the preceding acts performed by the child.

In order to study the compliant and noncompliant behavior of the mother, we focused our attention on the mother's effect acts, i.e., those acts the mother performs in response to what the child does (see Ch. 1, p. 5). In this way it was possible to analyze the mother's behavior in response to the child's behavior. The discussion of the mother's effect acts will be restricted to those which were performed in response to the child's succorant behavior, since the analysis has shown that succorance is the crucial factor in differentiating the blind and sighted childrens' behavior. Furthermore, out of a number of different kinds of acts included in the category of succorance, we selected only one kind, namely, requests for help. This was done in order to keep that behavior on the part of the child which served as a stimulus to the mother's effect act as specific as possible.

The mother's effect acts to the child's requests for help were classified into three categories: compliance, refusal, and ignoring. When the mother gave the child what he wanted, it was classified as compliance. When the mother refused to give what the child wanted, it was classified as refusal. When the mother did not respond in any way to the child's request for help, it was classified as ignoring. Classifying ignoring as an effect act sounds contradictory since ignoring is, by definition, an absence of act. However, the absence of an act did serve to instigate behavior on the part of the child, and therefore, we treated ignoring as an effect act.

In Table 4, the rate of these three types of effect acts performed by mothers in response to their children's requests for help are compared. By rate of effect act, we mean the number of acts of a given type which the mother performs over a period of one hour in response to the child's requests for help. Table 4 shows that the mothers of the blind children

TABLE 4

Rate of Mothers' Effect Acts in Response to Children's Requests for Help

	Rate of effect act		
Type of effect act	*Mothers of sighted children (N = 12)*	*Mothers of blind children (N = 10)*	*p*
Compliance	1.92	10.44	0.0002
Refusal	1.44	6.72	0.003
Ignoring	0.36	3.96	0.05
Total	3.72	21.12	ns

perform all three kinds of effect acts significantly more often than do the mothers of the sighted children. This difference is also reflected when the overall rate of effect acts is examined. The mothers of blind children perform approximately five times as many effect acts as the mothers of sighted children. In accordance with this ratio, blind children's mothers perform about five times as many compliance and refusal acts as the mothers of sighted children. The most impressive fact is, however, that the mothers of blind children ignore requests for help on the part of their children eleven times more often than do the mothers of sighted children.

TABLE 5
Probability of Mothers' Effect Acts in Response to Children's Requests for Help

	Probability of effect act		
Type of effect act	*Mothers of sighted children* (*N* = 7)	*Mothers of blind children* (*N* = 10)	*p*
Compliance	0.58	0.55	ns
Refusal	0.38	0.33	ns
Ignoring	0.04	0.12	ns
Total	1.00	1.00	ns

Table 5 shows the probability of these same three types of effect acts. The probability of the effect act was obtained by dividing the number of effect acts in each of the individual categories by the number of acts in all the categories combined. The greatest difference between the two groups is found in the category of ignoring, the second largest in the category of refusal, and the smallest in the category of compliance. These differences are not big enough to reach the conventionally accepted level of significance. However, there is a trend which suggests that with larger samples of blind and sighted children the difference between the two groups in the category of ignoring might be large enough to be significant.

The examination of the probabilities within each group points up still another dimension on which the two groups differ. Among mothers of blind children, effect act preference is as follows: compliance first, refusal second, and ignoring third. Refusal is in the middle and there are about 20 percentage points separating it in both directions from compliance and ignoring. These 20 percentage points significantly differentiate refusal from both compliance ($p < .02$) and ignoring ($p < .004$). The effect act preference of the mothers of sighted children is similar except that the amount of difference between compliance and refusal is less than that between refusal and ignoring. No statistical difference was found between compliance and refusal, but the difference between refusal and ignoring was significant at the .02 level.

The relationships revealed by an analysis of probability of effect act also hold when we analyze rate of effect act. The mothers of blind children complied more than they refused, and they refused more than they ignored. The differences between compliance and refusal and between refusal and ignoring were significant at less than the .03 and .02 levels, respectively. Among the mothers of sighted children, on the other hand, no significant difference was found between compliance and refusal. However, they refused much more than they ignored, and the difference was significant at the .06 level.

The response patterns of the mothers of blind and sighted children may be summarized as follows: First, the mothers of blind children perform acts of all three types, i.e., compliance, refusal, and ignoring, significantly more frequently than do the mothers of sighted children. However, of these three differences, the relative difference between the two groups in the category of ignoring was the largest (see p. 32). Second, when the probability of the three types of effect acts mothers perform in response to requests for help are compared, none of the differences reach a conventionally accepted level of significance. However, the largest of the three differences was found in the category of ignoring. Mothers of blind children ignored requests for help proportionally more often than did mothers of sighted children. With larger samples this difference might be significant. The most we can say at present is that there is a trend which indicates that mothers of blind children tend to ignore the approaches made by their children more than do mothers of sighted children. Third, both groups of mothers, when asked for help by their children, comply most frequently, refuse next most frequently, and ignore least frequently. Fourth, mothers of blind and sighted children comply to approximately the same percentage of their children's requests for help, i.e., 58 per cent and 55 per cent respectively. Fifth, the mothers of blind children refuse requests for help significantly more than they ignore them and comply to them significantly more than they refuse them.

The mothers of sighted children, in contrast, both comply to and refuse requests for help significantly more often than they ignore them. The difference between their compliance and refusal effect acts was not significant.

These findings when viewed together point up the fact that the difference between the patterns of effect acts of the mothers of blind and sighted children lies not so much in the extent to which they comply to their children's requests for help, but in the method they use when they do not comply. More specifically, when the mothers of sighted children do not comply, they usually refuse; ignoring is used rarely, only 9 per cent of the time. The mothers of blind children, on the other hand, do not refuse requests for help quite as often as do the mothers of sighted children, but they ignore such requests three times as often (27 per cent of all noncompliant acts) as do the mothers of sighted children.

An interesting question arises here. Why is it that mothers of blind children tend to ignore their children's requests for help more than do mothers of sighted children? Sommers' study (1944) of the attitudes of 50 mothers toward their blind adolescents sheds light on this question. In Cole and Taboroff's (1956) words, she found "their adjustments ranging from acceptance to overt rejection, with the majority falling into the disguised rejection class." Although the mothers falling into the disguised rejection class gave the impression of being very good mothers at first, a closer study disclosed that they fundamentally rejected their children. Their rejection, Sommers (1944) claims, aroused feelings of guilt in the mothers which they tried to alleviate by becoming overprotective (p. 55).

Sommers' findings regarding the relationship between maternal rejection and maternal overprotection is supported by Zemlick and Watson's study (cited in Watson, 1959, pp. 232-233) of maternal rejection and acceptance. Zemlick and Watson studied how mothers reacted after the birth of their child as compared to how they felt before the birth of their child. The postnatal indices included the mother's evaluation of the baby (approval, solicitude, and contentment, or their opposites), her cooperativeness in meeting the needs of the infant in feeding, and so on. The specific ratings of these factors were summarized in general ratings, ranging from most solicitous to least solicitous. When these general ratings were correlated with the prenatal indices of anxiety, symptom, and attitude of rejection, negative relationships were found. That is "mothers who subjectively and objectively displayed the greatest degree of symptomatology express their rejection through psychosomatic avenues during pregnancy and later exhibit overindulgent, oversolicitous and compulsive behavior (maternal persistence) with respect to the child" (Zemlick and Watson, 1953, pp. 582-583). Their findings suggest that maternal rejection is frequently expressed through an overprotecting attitude toward the child. Feelings of guilt and rebellion against a cruel fate were found to be present in nearly every mother, even in those few mothers who were classified as able to accept the child and his handicap. If we view the tendency of mothers of blind children to ignore requests for help in the light of Sommers' findings, we may interpret it as a disguised expression of rejection.

Let us now return to our discussion of maternal overprotection. Our analysis of the mother's modes of response to the child's requests for help has given us a measure of maternal indulgence, one of the important criteria of maternal overprotection. If we measure maternal indulgence in terms of how often the mother complies to the child's requests for help, we find that the mothers of blind children are significantly more indulgent than the mothers of sighted children. This lends credence to our conjecture that blind children's succorant behavior may be due to maternal overprotection. However, if maternal indulgence is measured in terms of the amount of the mother's compliance relative to the amount of the mother's noncompliance, our conjecture becomes less credible, for the mothers of blind children are no different from the mothers of sighted children with respect to this measure. In fact, the actual proportion of compliance among the mothers of blind children is a little less than it is among the mothers of sighted children.

Still another way to evaluate maternal indulgence seems to be to look at each of the three types of effect acts, i.e., compliance, refusal, and ignoring, in terms of how rewarding each is to the child. If we assume that getting mother's attention is rewarding to the child, we should classify refusal together with compliance as rewarding, since the child still receives his mother's attention even when he is refused. When the child is ignored by the mother, on the other hand, he fails to get her attention, and is therefore, not rewarded. In line with this reasoning, sighted children can be said to be rewarded more than blind children when they request help. When sighted children can expect to be rewarded nearly every time they ask their mothers for help because they fail to receive reward (compliance or refusal) only once every ten times; blind children can expect to be rewarded much less when they ask for help because they fail to receive reward (compliance or refusal) once every four times.

The conclusion drawn from our examination of the mother's mode of response to the child's succorant behavior depends to some extent on the type of analysis we choose to emphasize. If we look at the sheer frequency of compliance by the mothers of the blind to their children's requests for help, then we would conclude that blind children are more indulged than sighted children. If we look at the probability of compliance on the part of the mothers relative to their noncompliance, we would conclude that blind children are no more indulged than sighted children. If we interpret both compliance and refusal as rewarding (in the sense that they both imply attention on the part of the mother to the child) and look at the sum of the probabilities of compliance and refusal on the part of the mother, then we would conclude that blind children are less indulged than sighted children.

In summarizing this section comparing the behavior of the mothers of blind and sighted children, we may make two general statements. First, in terms of probability of the mother's effect acts, we found that there was a difference between the mothers of sighted and blind children. The mothers of blind children tend to ignore their children's requests for help more than do the mothers of sighted children. Second, in terms of rate of the mother's effect acts, the mothers of blind children are more dominant, more sociable, more indulgent, and have more interaction with their children.

In the opinion of this writer, the notion that mothers of blind children often tend to be overprotective, may be, at least in part, due to the fact that previous investigators formed their impressions on the basis of casual observations of the frequencies of particular types of behavior on the part of these mothers, rather than on an analysis of the total profile of their behavior and the relationships which exist among the different types of their behavior. Or, it may be that previous investigators felt frequency to be a more important index than probability. An interesting question is: is it the frequency of act (measured by rate of mother's acts of a given type) or is it act preference (measured by probability of mother's acts of a given type) which has a greater influence on the behavior of the blind child.

In the next chapter, we will deal only with the behavior of the blind children and their mothers. Since the analyses presented in this chapter suggest that blind children's succorant behavior and their mothers' ignoring behavior are what distinguish them from sighted children and their mothers, our attention will be focused on these two factors. The objective will be to examine how these factors are related to, and how they influence, each other.

CHAPTER III

A CORRELATIONAL ANALYSIS OF MOTHER-CHILD INTERACTION

Differences between the Blind and Sighted Samples in Mother-Child Interaction

In the previous chapter, the behavior of the blind and sighted children was compared on a group basis. A comparison was also made between the behavior of the mothers of the blind and sighted children. In the present chapter, we will look at the children's behavior in relation to their mothers' behavior. Our objectives here are twofold. First, we want to find out in what ways mother-child interaction differs in the blind and the sighted samples. Second, we want to determine in what ways mother-child interaction in the blind and sighted samples is similar.

[illegible] our first objective, rank order correlation matrices were computed relating the children's behavior to their mothers' behavior for each sample (see Appendix C).

Six different categories of maternal behavior were included in the correlational analysis: (a) dominance, (b) succorance, (c) sociability, (d) compliance, (e) nonsociable aggression, and (f) sociable aggression. Measures based on the proportion of instigations by the mother in each of these categories were used (see Ch. 2, pp. 31-32). Three modifications were necessary. First, due to the low frequency occurring in each separate aggression category (nonsociable physical aggression, sociable physical aggression, nonsociable verbal aggression, and sociable verbal aggression), we combined the nonsociable physical and nonsociable verbal aggression to make a new category called nonsociable aggression. Second, for the same reason, sociable physical and sociable verbal aggression were combined to make a new category called sociable aggression. Third, a new behavior category, compliance, was devised to replace the category, noncompliance. The new compliance measure was obtained by dividing the frequency of mother's compliance with requests for help by the combined frequency of mother's compliance with, mother's refusal of, and mother's ignoring of, requests for help. The compliance measure, thus, expresses the proportion of time the mother complied when asked for help by the child.

In addition to the six categories mentioned above, the matrix of the blind sample included a category of ignoring. The mother's ignoring behavior here refers to the absence of an apparent response on the part of the mother after the child requests her help. We added this category, because the analysis in Chapter 3 suggested that mothers' ignoring may be an important factor in understanding the behavior of the blind children. The proportion of ignoring was obtained by dividing the frequency of mother's ignoring by the frequency of the child's requests for help. We were not able to include the same category in the matrix of the sighted sample, since the mothers of the sighted children rarely ignored their children.

As indices of the children's behavior, we looked at eight types of acts directed by them toward their mothers: (a) dominance, (b) nurturance, (c) succorance, (d) submission, (e) sociability, (f) self-reliance, (g) sociable aggression, and (h) nonsociable aggression. In order to control for individual differences among the children in overall rate of interaction with the mother, the children's behavioral measures were expressed in terms of proportion rather than rate. That is, the number of acts directed toward the mother which fell in a given category of behavior was divided by the total number of acts directed toward the mother. Two exceptions were made, however, in the categories of succorance and self-reliance. First, in order to make the category of succorance as pure as possible, we included only acts designated as requests for help, thus excluding all other types of succorant behavior originally included in this category. The new succorant measure was obtained by dividing the frequency of the child's requests for help by the overall frequency of interaction with his mother. Second, our measure of self-reliance was based on all of the child's self-initiated acts, not only on those self-reliant acts directed toward the mother. This was necessary since self-reliant acts were usually self-initiated solitary acts and therefore not directed toward the mother or any other person. The proportion of self-reliant acts was determined by dividing the frequency of the child's self-reliant acts by the overall frequency of his self-initiated acts.

A comparison of the correlation matrices of the blind and sighted samples revealed that mother-child interaction differs in a number of

TABLE 6

Rank Correlation Matrix of the Relationships between the Behavior of the Children and their Mothers in the Blind and Sighted Samples[1]

	Mothers' Behavior					
Children's Behavior	Dominance	Nurturance	Hostility	Compliance	Sociable aggression	[illegible] aggression
Dominance			[illegible] [illegible]	[illegible] [illegible]		
Nurturance	[illegible] [illegible]					
Succorance	[illegible] [illegible]					[illegible] [illegible]
Submission	[illegible] [illegible]			[illegible] [illegible]	[illegible] [illegible]	[illegible] [illegible]
Sociability	[illegible] [illegible]	[illegible] [illegible]	[illegible] [illegible]	[illegible] [illegible]		[illegible] [illegible]
Self-reliance						
Sociable aggression	[illegible] [illegible]				[illegible] [illegible]	[illegible] [illegible]
[illegible] aggression						

[1] The upper and the lower coefficients in each cell are for the sighted and blind samples, respectively. [illegible]

* $p \le .05$; ** $p \le .01$.

ways in the blind and sighted samples. These differences are presented in Table 6.

The writer was not able to find a statistical test to determine the significance of the difference between two rank order correlations. Therefore, the difference between the rank order correlation of the blind sample and the rank order correlation of the sighted sample had to be determined on an arbitrary basis, i.e., one of the two correlations is greater than ±.40 and the difference between the two is larger than .40.

One way of looking at these differences is to focus on each category of maternal behavior and relate it to all the categories of children's behavior. When we do so, we find that the blind children's behavior in relation to their mothers' dominance seems to be characterized by acceptance of dominance. That is, to the more dominant mother, the blind child tends to be more nurturant, less succorant, and more submissive. The sighted children's behavior in relation to their mothers' dominance, on the other hand, seems to be characterized by nonacceptance of domisance. To the more dominant mother, the sighted child tends to be less nurturant, more succorant, less sociable, and more sociably aggressive. His submission is unpredictable.

The situation is quite different when we look at the children's behavior in relation to their mothers' sociable and nonsociable aggression. The blind children's behavior in relation to their mothers' aggression (both sociable and nonsociable) seems to suggest nonacceptance of aggression. They show this by being less submissive and more sociably aggressive to the more aggressive mothers. The sighted children's behavior in relation to their mothers' sociable and nonsociable aggression, on the contrary, seems to show acceptance of aggression. To the more sociably aggressive mother and, to a lesser extent, to the more nonsociably aggressive mother, the sighted child tends to be more submissive. His sociable aggression in relation to his mother's aggression (both sociable and nonsociable), unlike that of the blind child, is not at all predictable. Furthermore, to the more nonsociably aggressive mother, the sighted child tends to be less succorant and more sociable.

The children's behavior in relation to their mothers' compliance is the third area in which differences between the blind and the sighted samples were found. With a compliant mother, the sighted child tends to assume a dominant role. He tends to be more dominant and less submissive. The blind child, on the other hand, tends to be more sociable and less dominant.

The relationship between the children's behavior and their mothers' sociability is the fourth area in which differences were found. To the more sociable mother, the blind child tends to be less dominant and more sociable. The sighted children do not show any particular behavior tendency in relation to their mothers' sociability except for a very slight tendency to be more dominant. In other words, the relationship between a blind child and a sociable mother is characterized by friendliness on both sides. It is one in which neither takes a dominant or subordinate position and neither is aggressing against the other. Such a friendly relationship was not found between the sighted child and the sociable mother.

Finally, differences were found between the children's behavior in relation to their mothers' succorance. In relation to a more succorant mother, the blind child shows a slight tendency to be less sociable, while the sighted child shows a strong tendency to be sociable.

Another way of looking at the differences between the blind and sighted samples is to focus on each category of children's behavior and examine those instances where strong relationships were found between it and the categories of maternal behavior. When we do so we find that the blind children tend to be most sociable to mothers who are sociable (.87, $p < .01$), while the sighted children tend to be most sociable to mothers who are succorant (.67, $p < .05$). The blind children tend to be most submissive to mothers who are dominant (.76, $p < .02$). The sighted children, on the other hand, tend to be most submissive to more sociably aggressive mothers (.63, $p < .05$). The blind children tend to be most sociably aggressive to more aggressive (nonsociably) mothers (.70, $p < .05$), while the sighted children tend to be most sociably aggressive to more dominant mothers (.42, $p < .05$). The sighted children tend to be most succorant to mothers who are more dominating (.57, $p < .10$) and who are not (nonsociably) aggressive (.57, $p < .10$), while the blind children tend to be most succorant to mothers who ignore their succorant behavior more (.71, $p < .05$). It was not possible to correlate the children's succorant behavior and the mothers' ignoring behavior for the sighted sample, since the mothers of the sighted children rarely ignored them.

In short, we may say that the sighted children tend to relate to their mothers' aggression (sociable) with submission, succorance with sociability, and to their dominance with succorance. The blind children tend to relate to their mothers' dominance with submission, their aggression (both sociable and nonsociable) with sociable aggression, their sociability with sociability, and their ignoring with succorance.

From the data presented here, we may conclude that, at least in those behavioral systems discussed above, mother-child interaction differs in the blind and sighted samples. Stated otherwise, the behavior of the blind children in relation to their mothers' behavior cannot, in many instances, be predicted in the same way as the behavior of the sighted children. This conclusion invalidates one explanation we offered in Chapter 3 to account for the blind children's greater tendency toward succorance when compared to the sighted children. Reference was made to Levy's (1943) study of maternal overprotection and to his conclusion that the overindulged child tends to be dominant toward his mother. The dominated child, on the other hand, tends to be submissive and his aggressive tendencies restricted. Since our comparison of the blind and sighted children showed that the blind children as a group are more succorant, and less nonsociably aggressive than the sighted children, and furthermore, that the mothers of the blind children are more dominating than the mothers of the sighted children (in terms of a rate measure), we suggested, in line with Levy's findings, that the excessive succorant behavior on the part of the blind children might be due to the dominating behavior exhibited by their mothers. However, the correlational analysis of mother-child interaction for the blind sample does not support this reasoning.

As far as the sighted sample is concerned, our correlational analysis does support Levy's finding. That is, the sighted children of overindulging (more compliant) mothers tend to be dominating and less submissive. The sighted children of the more dominating mothers tend to be more dependent (succorant) and slightly less (nonsociably) aggressive (see Appendix C). For the blind sample, however, instead of the more dominated blind children being more succorant, as would be predicted on the basis of Levy's finding, they tend to be less succorant. Furthermore, the relationship between maternal dominance and the blind children's aggression (nonsociable) was practically nil. In fact, it tended to be in a direction opposite to that expected (see Appendix C).

At present, no one can be sure why blind children tend to respond to certain types of maternal behavior differently than do sighted children. However, the findings of this study are somewhat relevant to the problem, especially with respect to maternal dominance.

Let us first turn to the question of why the blind children tend to relate to their mothers' dominance in a way which differs from that of the sighted children. In our effort to answer this question, we looked at the internal relationships among the mother's behaviors (see Appendix C). It was found that the more dominant mothers of the blind children tend to be more succorant (request help more), whereas the more dominant mothers of the sighted children tend to be less succorant (request help less). Still another difference between the behavior of the mothers of the blind and the sighted children is that while dominance in the mothers of the blind children is related to only one other type of behavior, namely, succorance, dominance in the mothers of the sighted children is related to three other types of behavior: (a) sociability, (b) compliance, and (c) nonsociable aggression. It is our feeling that the differences between the blind and sighted children's behavior is relation to maternal dominance is, at least partially, a reflection of the differences observed between the internal configurations of their mothers' behavior. Let us, therefore, consider some of the effects which different maternal behavioral configurations might have upon the behavior of the child.

Schutz's (1958) concept of inclusion may throw light on the effects of the mother's succorant behavior. By inclusion Schutz meant the need people have to do things together, to take part in social activities without necessarily involving deeper aspect of the self. He considers this as one of the fundamental aspects of interpersonal orientation. It is reasonable to think that in the case of the blind child, this need may assume an even greater importance than it does in the sighted child. The sighted child's world is social when he is simply near his mother because he can perceive her presence nearby. The blind child, on the other hand, due to his lack of sight, may feel his aloneness acutely unless he is actually doing things with his mother. If, as the data indicate, the more dominating mothers of the blind children also satisfy their children's need for inclusion by asking them for help, it is not surprising that the blind children tend to accept the dominance of their mothers and assume the subordinate role of the follower.

There is also an indirect indication that the blind child does not associate his mother's dominance with hostility or rejection. The positive correlations between the mother's aggression (both sociable and nonsociable) and the child's sociable aggression suggest that the blind child seems to be capable of aggression against his mother, at least in a sociable manner, when he is aggressed against by her. Likewise, the negative correlation between the mother's compliance and the child's sociable aggression, or, the converse, the positive correlation between the mother's refusal and the child's sociable aggression (see Appendix C), suggests that the blind child is capable of sociable aggression against his mother when he is refused by her. The lack of correlation between the mother's dominance and the blind child's aggression (both sociable and nonsociable), therefore, leads us to speculate that the blind child does not see the dominance of his mother as hostile or rejecting. Stated otherwise, the blind child's submission to his mother's dominance does not seem to be out of fear that his mother might hurt him by aggression, or out of fear that she might fail to be nurturant.

The more dominant mothers of the sighted children, unlike the dominant mothers of the blind children, tend to be less compliant. Their lack of sociability is highly predictable. Furthermore, they tend not to ask their children for help. In short, it seems that the more dominant mother of the sighted child fails, in Schutz' terms, to satisfy the child's needs for inclusion. This failure, combined with their failure to be compliant and sociable, may explain why the sighted children, unlike the blind children, tend to be less nurturant, less sociable, more succorant, and more sociably aggressive in relation to the dominance of their mothers.

In summary, the findings presented in Part One of this chapter are based on a comparative analysis of rank order correlation matrices in which the behavior of the mothers and the children in both samples were correlated. In some areas of mother-child interaction, striking differences were found between the blind and sighted samples.

Regarding the relationship between the mother's dominance and the child's behavior, the major difference between the two samples may be stated as follows: The blind children of more dominant mothers accept the role of follower and submit, while the sighted children show no such tendency. This may be due to the fact that the more dominant mothers of the sighted children, besides being dominating, tend to be less sociable and more rejecting. The more dominant mothers of the blind children, on the other hand, have none of the negative tendencies associated with the more dominant mothers of the sighted children. Furthermore, they tend to ask their children for help. This act of asking for help, we suggested, may be seen as an act of inclusion (Schutz, 1958) by the mother, hence satisfying to a young child, particularly one who is blind.

Similarities between the Blind and Sighted Samples in Mother-Child Interaction

The correlational analysis presented in Part One indicated that in certain specific areas of mother-child interaction the blind and sighted samples differ. In the second part of this chapter, our objective is to point out and discuss those areas in which mother-child interaction is the same regardless of whether the child is blind or not.

In order to do this, we prepared a rank order correlation matrix relating the children's behavior to their mothers' behavior for the blind and the sighted samples combined (see Table 7). That is, data on the

TABLE 7

Rank Correlation Matrix of the Relationships between the Behavior of the Children and their Mothers in the Combined Sample[1]

	Mothers' Behavior					
Children's Behavior	*Dominance*	*Succorance*	*Sociability*	*Compliance*	*Sociable aggression*	*Nonsociable aggression*
Dominance	−.35	.18			.10	.03
Nurturance		.45*	.11	.14	−.05	−.12
Succorance		−.08	−.27	−.27	−.01	
Submission		.40	−.19			
Sociability					−.02	
Self-reliance	.38	.13	−.13	.96***[2]	.09	−.26
Sociable aggression		.02	−.56**	−.82***		
Nonsociable aggression	.22	−.14	−.21	−.35	−.02	.30

[1] The coefficients are based on an *N* of 20 (10 blind and 10 sighted children and their mothers) except for the coefficients in the Compliance column which are based on an *N* of 17 (10 blind and 7 sighted children and their mothers).

[2] For the relationship between the mother's compliance and the children's self-reliance correlation ratio, rather than rank correlation, was used. The curvilinearity of regression reaches significance beyond the .01 level.

*$p < .05$; **$p < .01$; ***$p < .001$.

blind and the sighted children were combined and treated together. Data on the mothers of the blind and sighted children were also combined. We felt justified in combining the data in cases where our separate correlational analyses yielded similar correlations for both samples. The same behavioral measures used in Part One were used for the analysis to be presented in Part Two.

It was found that three types of maternal behavior, succorance, sociability, and compliance, are significantly related ($p < .05$) to nurturance, sociable aggression, and self-reliance in the children.

Our first correlation indicates that succorant mothers tend to have nurturant children, or conversely, that nurturant children tend to have succorant mothers (.45, $p < .05$). This finding lends empirical support to Leary's theory that dependent behavior provokes nurturant behavior (1957, p. 296) and "responsible, protective behavior pulls dependence and support from others" (1957, p. 317). He goes on to say that the effects of these behavior tendencies upon each other is reciprocal. "The effect of the dependent behavior is, therefore, to train the 'other one' to assume a strong, friendly role. Circular chains of interaction, of course, develop. The respected, responsible, nurturant person in turn presses the dependent person to increase dependence" (1957, p. 294).

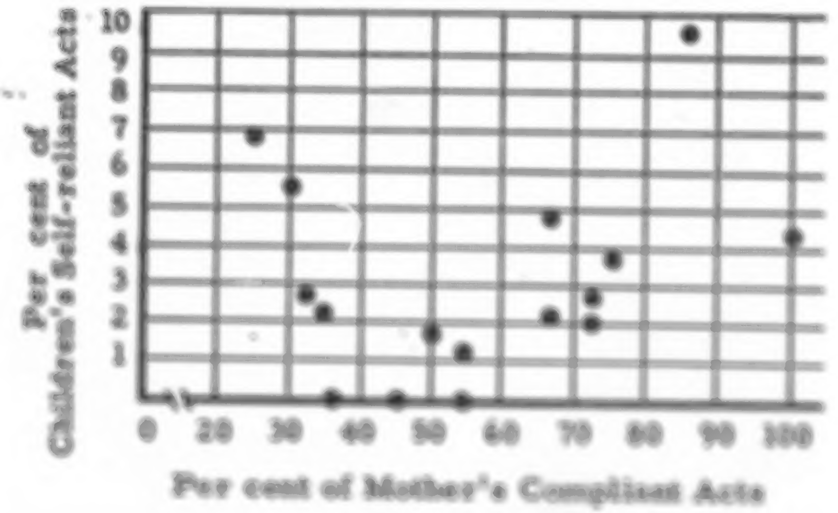
An analysis of the internal behavioral configurations of the combined sample of children (see Appendix C) shows that those children who tend to be more nurturant toward their mothers tend not to be succorant toward their mothers (—.59, $p < .01$). Furthermore, we found that those children who are less succorant toward their mothers are not only more nurturant toward their mothers, but also more nurturant toward people at home in general (—.77, $p < .001$). The negative correlation between children's succorance and nurturance indicate that these children demonstrate a definite tendency to behave in one of two ways, i.e., to depend on others' nurturance, or to be nurturant to others. It may well be that these children, who are only of preschool age, have already established a definite mode of relating to people.

The second correlation indicates that those mothers who are unlikely to comply with their children's requests for help (noncompliant mothers) tend to have sociably aggressive children. In regard to the mothers' compliance, it is interesting to note, further, that compliance and sociability are positively related to each other. That is, noncompliant mothers tend not to be sociable.

The third correlation indicates that those mothers who are not sociable tend to have sociably aggressive children (—.56, $p < .01$). When we look at this relationship along with the two discussed above, we see that: (a) noncompliant mothers tend to have sociably aggressive children; and (b) noncompliant mothers tend not to be sociable. This means, then, that the more sociably aggressive children tend to have mothers who are both less sociable and less compliant. We might infer from these findings that the sociable aggression of these children represents an attempt to get their mothers' attention, since other possible channels of getting their mothers' attention, by being succorant or by being sociable, are not open to them.

Finally, a curvilinear relationship was found between the mothers' compliance and the children's self-reliance (see Figure 1). Those mothers who either regularly comply with or regularly fail to comply with their children's requests for help tend to have self-reliant children, whereas, those mothers who equally often comply with and fail to comply with their children's requests for help tend to have children who are not self-reliant. The correlation ratio (McNemar, 1955) used to measure the

FIGURE 1
Scatter Diagram of the Relationship
between the Mothers' Compliance Scores and the
Children's Self-reliance Scores in the Combined Sample[1]
($N = 17$)



degree of relationship, yielded a coefficient of .96 ($p < .01$). The test for significance of curvilinearity ($p < .01$) indicates that the regression is definitely curvilinear.

The curvilinear relationship between children's self-reliance and mothers' compliance strongly supports the hypothesis that "the maximum occurrence of dependency reaction is produced by moderate amounts of frustration and punishment, while both lesser and greater frustration are associated with less frequent occurrence of such behavior" (Sears, Whiting, et al., 1953, p. 230). The relationship is presented graphically in Figure 2. If we assume self-reliant behavior to be diametrically opposed to dependent behavior, and if we also assume our compliance measure to be an index of frustration and punishment, we would predict on the basis of the Sears, Whiting, et al., hypothesis that the relation between the children's self-reliance and the mothers' compliance would be curvilinear, with the curve turning in a direction opposite to that of the dependency curve (see Figures 1 and 2).

The curvilinear relation between occurrence of dependent behavior and amount of frustration and punishment is explained by Sears, Whiting, et al., as fellows. Frustration and punishment up to a certain point increase the child's drive level which in turn results in the increase of dependent behavior. However, an excessive amount of frustration and punishment decreases the overt dependent behavior. There are two factors accounting for this decrease: "one is extinction through continuing nonreward, and the other is the direct initiation by the interfering behavior of such incompatible responses as avoidance, decontextualization, and withdrawal into fantasy or inhibitory depression" (Sears, Whiting, et al., 1953, p. 197). The self-reliance curve may be explained indirectly by this same reasoning.

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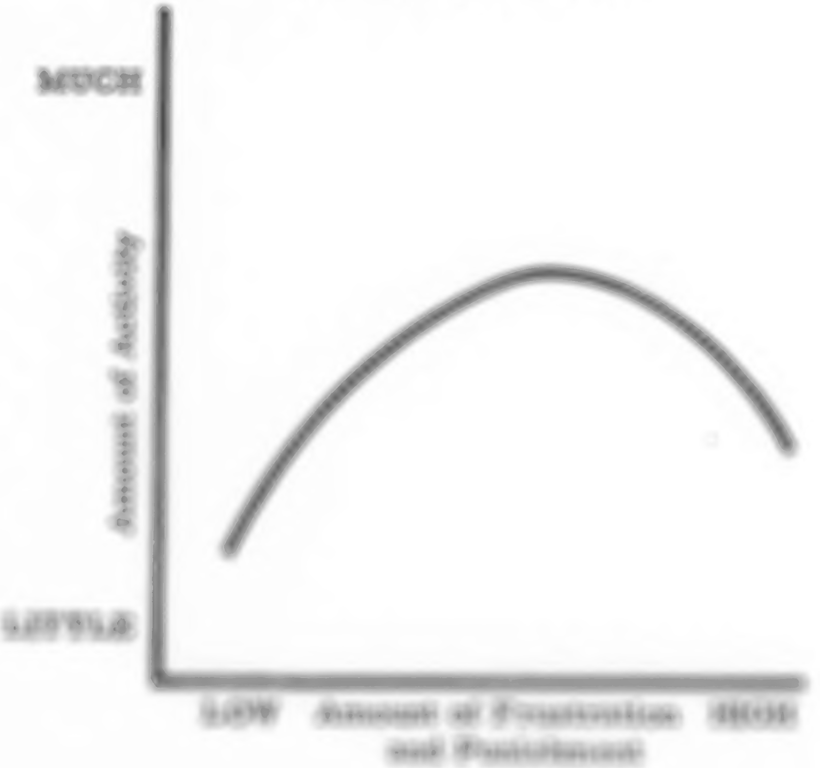
[1] See [illegible], pp. [illegible], for method used in computing curves.

FIGURE 2

The Hypothesized Relationship between Amount of Frustration or Punishment and Amount of Activity Engendered by D[1]



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[1] Activity includes alternative instrumental acts, aggression, and dependency (Sears, Whiting, Nowlis, and Sears, 1953).

It might be pointed out here that we found a positive correlation between the mothers' noncompliance and the children's self-initiated nonsociable aggression toward people at home in general. The positive correlation between the mothers' noncompliance and the children's sociable aggression toward their mothers, for both the blind and sighted samples, has already been mentioned. If we view the children's aggression as an index of their frustration and the mothers' noncompliance as a form of punishment, our findings support the underlying assumption of Sears, Whiting, et al., that punishment leads to frustration.

In summary, the correlational data presented in Part Two suggest that there are four specific areas of mother-child interaction which are similar in both the blind and sighted samples. As far as these four specific areas are concerned, we would be able to predict the child's behavior in relation to his mother reliably, without knowing whether he is blind or not. All we would need to have is information on the mother's succorance, sociability, and compliance, for our data indicate that: (a) more succorant mothers tend to have more nurturant children; (b) less sociable mothers tend to have more sociably aggressive children; and (c) extremely compliant and extremely noncompliant mothers tend to have children who are more self-reliant, while moderately compliant (equal amount of compliance and noncompliance) mothers tend to have children who are less self-reliant. The difference between the self-reliant children of more compliant and more noncompliant mothers is that the former tend to be less aggressive and the latter tend to be more aggressive.

CHAPTER [illegible]

DEPENDENCY IN BLIND CHILDREN

The Influence of Maternal Behavior on the Dependent Behavior of Blind Children

The blind have long been considered to be helpless and their dependence on others has been viewed as a natural consequence of their visual handicap. Recently, however, a new notion has emerged in the literature concerning the blind. Briefly stated, this notion is that it is not so much the lack of sight itself, but the differential social treatment the blind receive from others that makes them more dependent ([illegible], [illegible]). The treatment of preschool age blind children by their mothers has been emphasized as most vital in the formation of their dependent tendencies. The differential effect of the visual handicap itself as opposed to social handling, however, cannot be easily determined. The objective of the present chapter is to present some of the data we have collected which are relevant to this problem.

Two of the nine categories of children's behavior dealt with in the present research relate to dependency. These are: (a) succorance, and (b) self-reliance. The dimensions of succorance and self-reliance will be found on indices described in Chapter [illegible] (see p. [illegible]). The child's succorance index is based on one subcategory of "requesting help from mother." The child's self-reliance index is based on "self-initiated" acts. In other words, the index of succorance behavior shows to what extent the child relies on others' assistance, while the index of self-reliant behavior shows to what extent the child relies on his own resources even in encountering difficulty. Those children who are high in succorance and low in self-reliance would be considered dependent. Conversely, those children who are low in succorance and high in self-reliance would be considered independent.

It was earlier indicated that blind children are more succorant ([illegible], p. [illegible]; [illegible]) and less self-reliant ([illegible], p. [illegible]) than sighted children. In [illegible] of dependency, then, blind children, as a group, may be said to be more dependent that sighted children. Furthermore, the correlational analysis revealed that these two categories of children's behavior, succorance and self-reliance, are strongly related to the way mothers respond to succorant behavior. Let us first look at the relationship between the blind children's succorant behavior and their mothers' response to this behavior.

It was found that blind children whose requests for help are more likely to be either complied with or refused by their mothers tend to be less succorant toward their mothers (—.41, $p > .05$; —.32, $p > .05$). Those children whose requests for help are more likely to be ignored, on the other hand, tend to show a strong tendency to be more succorant toward their mothers (.71, $p < .05$). When the frequency of the child's requests for help, or the frequency of the mother's compliance is partialed out, the relationship between the mothers' likelihood of ignoring and the children's succorant tendency remained basically unchanged. In other words, if all the children were to ask for help at the same rate (same number of requests in a given interval of time), those children whose requests were more likely to be ignored would tend to ask for help proportionally more often. Similarly, if all the mothers were to comply with their children's requests for help at the same rate (same number of compliances in a given interval of time), those blind children whose requests for help were more likely to be ignored would tend to ask for help more frequently.

In a further analysis, we ascertained how long the interval between the child's requests for help was after he had been complied with, refused, and ignored. The frequency of nonsuccorant acts performed by the child during the interval was taken as an index of length of interval. It was found that the interval between requests for help was longest after the mother's compliance, next longest after refusal, and shortest after ignoring (Friedman Two-Way Analysis, $p < .05$; Siegel, 1956). The average lengths of response intervals after the mother's ignoring, after the mother's refusal, and after the mother's compliance were 1.5, 3.2, and 4.1, respectively. The difference between length of interval after compliance and after ignoring was significant at less than the 0.3 level (Mann-Whitney Test; Mosteller & Bush, 1954). The difference between length of interval after ignoring and after refusal, as well as the difference between length of interval after compliance and after refusal, did not quite reach the conventional level of significance. However, it was felt that with a larger sample, these differences might have been significant. We also found that blind children whose requests for help are more likely to be ignored by their mothers have a shorter response interval after their requests have met with compliance than do children who are less likely to be ignored.

Perhaps it should be mentioned here that rate of succorant behavior (the frequency of requests for help in a given interval of time) is strongly related (rho = .70, $p < .05$) to proportion of succorant behavior (the frequency of requests for help divided by the frequency of overall interaction) in blind children. This indicates that the high rate of requests for help among blind children is not an artifact of a high overall rate of interaction with their mothers.

In short, our research findings indicate that the blind children, as a group, are more succorant than the sighted children and that their succorance is strongly correlated with how likely their mothers are to ignore their requests for help. A similar analysis of the sighted children's succorant behavior with respect to their mothers' compliance, refusal, and ignoring was not possible since their mothers rarely ignored them.

Let us now turn to another aspect of dependency in children, namely, the relationship between their self-reliance and their mothers' behavior. A correlational analysis based on the combined sample of blind and sighted children indicated, as pointed out in Chapter 3 (see p. 47), that a strong curvilinear relationship exists between the children's self-reliance and their mothers' compliance. Stated more specifically, those children whose requests for help are either more likely to be complied with, or more likely to be noncomplied with (refused or ignored) by their mothers tend to be self-reliant. Whereas those children who are moderately complied with (about an equal amount of compliance and noncompliance) tend to be low in self-reliance.

On the basis of the foregoing findings, we might predict that those blind children who are low in succorance and high in self-reliance (i.e., who are more independent) would have mothers who: (a) tend not to ignore their children's requests for help, and (b) tend to be either highly compliant or highly noncompliant. On the other hand, those blind children who are high in succorance and low in self-reliance (i.e., who are more dependent) who have mothers who: (a) tend to ignore their children's requests for help, and (b) tend to be moderately compliant.

In order to test our prediction, we classified the blind children into the following four groups:

1. those blind children whose mothers are high in ignoring and either highly compliant or highly noncompliant;
2. those blind children whose mothers are low in ignoring and either highly compliant or highly noncompliant;
3. those blind children whose mothers are high in ignoring and moderate in compliance;
4. those blind children whose mothers are low in ignoring and moderate in compliance.

It was found, as was predicted, that blind children in group 2 had the lowest succorance and highest self-reliance scores (based on rank scores). In other words, these children were the most independent. Conversely, blind children in group 3 were least self-reliant and second most succorant. When self-reliance and succorance are taken together as an index of dependency, this group of children may be said to be the most dependent.

The same tendency was found when a similar analysis was carried out on the combined sample of blind and sighted subjects. We found that group 2 (the most independent group) included proportionally more sighted children (.57) than blind children (.30), and group 3 (the most dependent group) included proportionally more blind children (.40) than sighted children (.29). In other words, there is a tendency for the mothers of the blind children to ignore and comply moderately, and for the mothers of the sighted children to comply either very much or very little and not to ignore. This finding is understandable in view of the fact that 70 per cent of the mothers of the blind children ignored their children's requests for help sometimes, only 29 per cent of the mothers of the sighted children ever did so. Furthermore, 70 per cent of the blind children had mothers whose compliance scores fell between 31-69 per cent, only 43 per cent of the sighted children had mothers who compliance scores fell within this range.

Our finding that blind children are more succorant and less self-reliant than sighted children, when taken alone lends empirical support to the commonly held belief that blind children are more dependent. The finding about their mothers' behavior, however, suggests, contrary to common belief, that their dependency is, at least partially, due to the differential maternal handling they receive in the home. It seems likely, therefore, that if blind children's succorant behavior were treated similarly to that of sighted children, they would tend to develop the same degree of independence.

We tested this notion by comparing the dependency scores of those blind and sighted children whose succorant behavior was treated in a similar way by their mothers. Whenever we found such pairs, and unfortunately there were very few, the blind child's dependency score was very much like that of the sighted child. For instance, there were two children, one blind and the other sighted, whose requests for help were treated in almost exactly the same way by their mothers. The blind child's mother complied with 31 per cent and refused 69 per cent of her child's requests. The sighted child's mother complied with 30 per cent and refused 70 per cent of her child's requests. Neither mother ignored her child's requests for help. Both of these children had exactly the same proportion (.21) of succorant acts, and their proportions of self-reliant acts were also extremely similar (.15 and .17). When the self-reliance scores of all 20 children (10 blind and 10 sighted) were ranked, these two children received ranks 17 and 18.

Such striking similarities seem to confirm the notion that a blind child, when his succorance is treated as that of a sighted child, tends to be more like sighted children than like other blind children with respect to his independent behavior.

The reason why the blind children's requests for help are so commonly ignored by their mothers was discussed in Chapter 2 (see p. 34). On the basis of Sommers' (1944) finding that mostly all the mothers of blind children included in her study expressed feelings of guilt and hostility concerning their blind children, and that a great number of these mothers had attitudes and modes of adjustments classified as "disguised rejection," we suggested that ignoring may be a method of disguising rejection. These mothers, because of their guilt feelings, cannot openly express their resentment by refusing their children's requests, and consequently, express their resentment in a more concealed manner —by ignoring them. Our finding that mothers who ignore their children's requests for help are also likely to be less sociable with their children is in harmony with our speculation, if, as seems reasonable, it is true that one tends not to interact sociably with a person one resents.

The tendency of the mothers of blind children to comply moderately (equal amount of compliance and noncompliance) with their children's requests for help may also be speculated upon in relation to their feelings of guilt and hostility. Our reasoning rests on the assumption that these two feelings generate conflict in a mother. On one hand, the feeling of hostility presses the mother toward not helping the blind child when he asks her for help—toward refusing or ignoring. The feeling of guilt, on the other hand, presses the mother toward not refusing, or ignoring. The mother with these conflicting feelings may vacillate between compliance and noncompliance, thus equating amount of compliance and noncompliance.

In concluding the first part of this chapter, we would like to look more closely at the traditional position that dependency in the blind is an unavoidable consequence of their physical handicap. In recent years, as pointed out above, this traditional point of view has been challenged by a new notion which emphasizes the influence of the social environment, especially maternal influence, on the behavior of blind children. This notion asserts that it is not the lack of sight itself, but the differential maternal treatment blind children receive which leads to their dependent behavior. The present research challenged both of these points of view because they rest on the untested assumption that blind children are more dependent than sighted children. Thus, first, we asked the question: are blind children really more dependent than sighted children of the same age? Our systematic observation of the behavior of blind and sighted children indicated that there is an appreciable difference between the behavior of the two groups of children—the blind children are much more dependent than the sighted children.

We, furthermore, challenged the basic assumption that the mothers of blind and sighted children treat their children differently. We asked: do blind children really receive differential treatment from their mothers? Although some excellent studies (Sommers, 1944; Norris, et al., 1957) have been carried out on the influence of mothers on blind children, no information regarding how the mothers of blind children actually behave is available. Our analysis of maternal behavior indicated that the mothers of blind children treat their children's succorant behavior in a different manner than do the mothers of sighted children. More specifically, the difference between the behavior of the mothers of the blind and sighted children was found in the way they respond when they do not comply with their children's succorant behavior. The mothers of the sighted children almost always refused when they did not comply with their children's succorant behavior, while the mothers of the blind children often ignored rather than refused their children's succorant behavior.

Finally, we asked the question: is there any relationship between the behavior of the mothers and the behavior of their children? Significant relationships were found between the children's dependent behavior and the way their mothers treat such behavior. Expressed in more specific terms, the mothers' tendency to ignore their children's succorant behavior, and their tendency to comply and not to comply with their children's succorant behavior equally often—these two maternal tendencies—were strongly associated with high succorance and low self-reliance in the blind children. We speculated that these two maternal tendencies, so characteristic of the mothers of blind children, may result from feelings of guilt and hostility which they experience in relation to their children.

The positive answers the present research provides to the three questions posed above support the following conclusion: although we cannot ignore the significant effect lack of sight has on the blind child's development and behavior, the dependency of the blind child bears a strong relationship to the differential treatment he receives from his mother.

Behavior Observation Protocols

In the second part of this chapter, four selected behavior observation protocols will be presented with the following objectives. First, we want to illustrate how differently the succorant behavior of the blind and sighted children is treated by their mothers. Second, we hope to demonstrate the difference which exists between the blind and sighted children in degree of dependency as expressed in their succorant and self-reliant behavior. We will present behavior protocols of two blind and two sighted children. These children have been selected on the basis of their dependency scores. Case No. 1 represents one of the least dependent and Case No. 2 one of the most dependent blind children. Similarly, Cases No. 3 and 4 represent one of the least and one of the most dependent sighted children. When the samples of blind and sighted children were combined (10 blind and 10 sighted children) and their behavior ranked in terms of dependency,[1] Cases No. 1 and 2 were 9.5th and 4th, and Cases No. 3 and 4 were 19th and 6th.[2]

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[1] The dependency score was derived by adding each child's rank score on succorance and self-reliance.

[2] In all four cases the names have been disguised.

CASE NO. 1

Name: ROBERT HUGHES
Time: In the afternoon, December 20, 1957
Setting: Hughes' house—living room and kitchen
Present: MOTHER, ALFRED (older brother, 8 years old),
ROBERT (the child being observed, boy, 4 years old)

MOTHER *and* ALFRED *are upstairs cleaning* ALFRED'S *room for the Christmas holiday.* ROBERT *is playing by himself downstairs in the living room.* ROBERT *has something in his hands which he has found on the floor.* MOTHER *comes downstairs and goes into the kitchen.*

ROBERT, *from the living room:* Mommy.

MOTHER *answers* ROBERT *from the kitchen:* Hi.

ROBERT: I found Alfred's figure. (*He runs to* MOTHER *in the kitchen with a figure of a man made of a pipe cleaner in his hands.*)

MOTHER: You did. Where did you find it?

ROBERT: Living room. (ROBERT *shows the figure to* MOTHER *and tells her that it is broken.*)

MOTHER: Oh, can you fix it up again?

ROBERT: How?

MOTHER: I don't know. See what you can do with it, ok?

ROBERT *says something to Mother which the observer could not hear.*

MOTHER *answers* ROBERT: Oh, sure.

ROBERT: Are the legs in the right place?

MOTHER: What do you think? Do they look right?

ROBERT *examines the legs.*

MOTHER *to* ROBERT: Oh, I must go back. Excuse me. (MOTHER *leaves* ROBERT *and goes upstairs.*)

ROBERT *does not say anything, and remains in the kitchen examining the figure.*

ROBERT: There. (ROBERT *goes toward the staircase.*) I fixed it. It's as good as new. Alfred, I really fixed it. (ROBERT *is now climbing up the stairs.*)

MOTHER *to* ALFRED: Can he play with it?

ALFRED: Yes, he can play with it.

ROBERT *goes to* ALFRED *and gives the figure to* ALFRED *saying:* Here is your figure.

ROBERT *accidentally comes across a large carton box on the floor which* MOTHER *and* ALFRED *have filled with old play things to put away. He finds an animal in the box.*

Mother *to* **Robert**: Oh look, you can look them over, but keep them in the box, all right?

Robert *poking his eye:* Yes.

Alfred *asks his mother a question concerning the cleaning of the room.* **Mother** *answers* **Alfred.**

Robert: Guess who popped out. Baba. (**Robert** *picks up a toy dog whose name seems to be* **Baba.**)

Mother: Baba?

Robert: Yes.

Alfred *talks to* **Mother.**

Alfred *to* **Robert**: Put Baba way down in the box.

Robert *pushes the dog down in the box, and says happily:* There, I buried it, Alfred.

Mother *asks* **Robert** *to take a box of toys to his room which is the next room.* **Robert** *takes it to his room.*

Robert *finds some toy in the box:* Is this mine, Ma?

Alfred: No, that's mine.

Robert: Oh, darn it. I don't have anything.

Alfred *explains how he got the toy.* (*It was a gift from someone.*)

Mother *to* **Robert**: Remember you got something else then.

CASE NO. 2

Name: Anna Randall

Time: In the afternoon, February 7, 1958

Setting: Randall's apartment—kitchen and living room

Present: Mother, Frank (younger brother, 3 years old), Edward (younger brother, 2 years old), Dorothy (younger sister, 1 year old), Baby Brother (6 months old), Anna (the child being observed, girl, 4 years old)

Mother, Frank, Edward, Dorothy, Baby Brother, *and* **Anna** *are in the kitchen.* **Mother** *is changing* **Dorothy's** *diaper.* **Baby Brother** *is lying on the kitchen table.* **Anna** *is asking* **Mother** *to play doctor with her.*

Anna: Hey Mommy, give me a needle.

Mother *does not answer Anna. She is changing* **Dorothy's** *diaper.*

Anna: Hey Mommy, give me a needle.

Mother *does not answer.*

Anna: Hey Mommy, give me a needle.

MOTHER *does not answer* ANNA. *She is still changing* DOROTHY'S *diaper.*

MOTHER: Call the doctor, Frank. Anna needs a needle.

FRANK: OK.

ANNA *comes and sits at the table. She pokes her eye.* FRANK *is calling the doctor.* (*It is a make-believe game.*)

ANNA *to* MOTHER: Give me a needle.

MOTHER: All right. (*She goes to* ANNA *and plays with* ANNA. MOTHER *plays the role of a doctor and gives* ANNA, *who is acting as a patient, an injection.*)

MOTHER *stops playing the game with* ANNA.

ANNA: Mommy. (ANNA *cries.*) Give me a needle.

MOTHER *does not answer* ANNA.

ANNA *to* MOTHER: *Give me a needle.*

MOTHER *does not answer* ANNA.

ANNA *whines:* Give me a needle.

MOTHER: All right.

ANNA *to* MOTHER: Give me a needle. (ANNA *repeats this again and again in a whining voice.*)

MOTHER *does not answer* ANNA. *She picks up Dorothy.* ANNA *sits on the chair at the kitchen table. She pokes her eyes with her finger.*

MOTHER: Frank, get her (DOROTHY'S) shoes.

ANNA *whines:* Mommy, give me a needle.

DOROTHY *is now crying.* MOTHER *takes* DOROTHY *into the bedroom which is next to the kitchen.* ANNA *remains sitting at the kitchen table poking her eyes. The radio by the table is playing.* ANNA *remains quiet.* MOTHER, FRANK, *and* DOROTHY *are now in the bedroom.* FRANK *comes back into the kitchen.*

ANNA (*probably thinking it is* MOTHER): Now, give me a needle.

FRANK *does not say anything to* ANNA. FRANK *says* "Hi" *to* BABY BROTHER *who is lying on the kitchen table.*

ANNA *whines:* Give me a needle.

MOTHER *comes to* ANNA *and plays doctor with* ANNA. *She gives* ANNA *an injection.* ANNA *laughs as though she is enjoying it.*

MOTHER, *pretending to give an injection to* ANNA *on her hip:* Right (on your bottom?)

ANNA *pretends she is a patient.*

FRANK *stands* BABY BROTHER *up and says:* Look at the baby. Mommy, look at the baby.

MOTHER *goes to the baby.*

ANNA: Mommy, give me a needle.

MOTHER *is talking to the baby and does not answer* **ANNA. ANNA** *pokes her eyes with her finger. She has something in her hands.*

MOTHER *to* **ANNA:** Give me that. (**MOTHER** *takes it from* **ANNA.**)

ANNA: Give me a needle.

MOTHER *does not answer* **ANNA.** *She is taking care of the baby.*

ANNA: Mommy, give me a needle.

MOTHER *does not answer* **ANNA.** *She goes to* **STEVEN.**

ANNA: Mommy, give me a needle, Mommy.

MOTHER *does not answer* **ANNA.** *She is playing with* **EDWARD.**

FRANK *to* **BABY BROTHER:** Peek-a-boo. (**FRANK** *plays with the baby.*)

ANNA *whines:* Mommy, give me a needle.

MOTHER *goes to* **ANNA** *and starts the game of doctor again.* **MOTHER** *pretends to be a doctor and gives* **ANNA** *an injection.*

CASE NO. 3

Name: **CAROL HOFFMAN**
Time: In the morning, January 21, 1955
Setting: Hoffman's house—TV room and kitchen
Present: **MOTHER, JOHN** (younger brother, 2 years old), and **CAROL** (the child being observed, girl, 4 years old)

CAROL *sits watching TV.* **JOHN** *comes in to watch TV without any clothes on and climbs up into chair beside the observer looking over the observer's shoulder.* **CAROL** *just watches. Twice she has glanced at the observer but only casually. Hasn't spoken. There's a clown on TV.* **CAROL** *sits on the end of the couch. Hands folded, feet straight out in front of her resting on the couch.* **JOHN,** *who can't talk too well makes a noise at the observer but* **CAROL** *is completely absorbed in the TV. Looks at the observer. Sticks out her tongue and rubs her lower lip with it. Gets off couch and gets on her broncho horse.* **JOHN** *goes over and tries to get her off the horse.*

CAROL: You'd better get over.

JOHN *pulls on the horse.* **CAROL** *pays little attention. She gets off the horse and goes into the kitchen (this apparently had nothing to do with* **JOHN'S** *pulling of which she seemed oblivious.)* **CAROL** *climbs up on the kitchen counter and gets into the kitchen cupboards.*

MOTHER: What are you looking for?

CAROL: I'm not going to tell you.

MOTHER *starts telling the observer about* **CAROL** *watching Ding Dong School.*

Carol *to* Mother: Don't you wish you had lots of pretty dresses like Miss Frances.

Mother *says she did.*

Carol: She must have an awful big closet.

Carol *is climbing around on the kitchen counter. She gets one of the cabinets open and gets some food out for herself.*

Mother: Carol started helping me with the dishes yesterday.

Mother: I'll have to get locks for my cabinets because Carol just climbs up and gets things out.

CASE NO. 4

Name: Mary Sanborn
Time: In the afternoon, June 23, 1955
Setting: Sanborn's back porch
Present: Mother, Barbara (older sister, 6 years old), Susan (friend, girl 5 years old), and Mary (the child being observed, girl 4 years old)

Mary *is playing with some clay which her mother bought her while* Mary *was making a record at* Susan's *house.* Mary *squeezes a piece off.* Mother *brings a bowl out.*

Barbara *to* Mother: Get a bowl.

Mother: What do you say, "please?"

Mary: I need a bowl, too. (*She puts clay in bowl* Mother *has brought.*)

Mother *brings another bowl and hands it to* Mary *who takes it.*

Mother: I have something you'd like to see Susan. Susan *is in a very bad mood and has been insulting them by saying she didn't want to come here.* Mother *is trying to cheer her up.*)

Mother *to* Susan: Some kitties.

Mary *to* Mother: Bring three.

Barbara *to* Susan: Big Brother's on. Want to go in and watch it?

Barbara *to* Susan: Wanta go?

Mary *squeezes clay.* Mother *comes back with kitties. Puts box of kitties down on floor.*

Mary: I wanta lift one up. (*Runs to box and picks up kitty and pats it. Shows it to* Susan.)

Mary *to* Susan: See, he's cute. (Susan *nods.*)

Mother: Why is he crying do you think?

Mary: I don't know. Want some milk? (*to kitty*)

Mary *to* Mother: Want me to put him down gently on the floor?

Mother: Are you sure (you can)?

Mary *sits down on floor. Picks up kitty. Puts it down again. Kitty is squealing.*

Mary *to mother cat who wants to get kitty back and tries to get out of box: No, no, Lindy.* (**Mary** *pushes her back.*)

Mother: Here comes the father. (*Father cat is looking out the back screen door from inside the house.*)

Mary: I'm gonna show him the kitty. (*Shows kitty to father through hole in screen so two cats' noses are touching.*)

Mother: Let him out, Mary.

Mary *opens kitchen door and pulls father cat out.*

CHAPTER V

SUMMARY AND CONCLUSIONS

The objective of the present research was to answer the following three questions: (a) is the behavior of blind children different from that of sighted children of the same age? (b) do the mothers of blind and sighted children treat their children differently? and (c) what are the relationships, if any, between the behavior of blind children and that of their mothers?

In answer to the first question, we found that the behavior of the blind children as a group differed from the behavior of the sighted children in four ways:

1. The blind children had higher rates of self-instigated acts directed toward their mothers in the categories of succorance and sociability than did the sighted children. The difference between the two groups was greatest in the category of succorance.
2. The blind children showed far greater preference for succorance over sociability and dominance—their second and third most preferred types of acts. No significant differences, on the other hand, were found among the sighted children's three most preferred types of acts—succorance, sociability, and dominance.
3. The blind children's acts, in comparison with those of the sighted children, tended to be monotonous and repetitious. Succorance was particularly prevalent.
4. The blind children exhibited stronger tendencies toward succorance and sociability, and the sighted children toward dominance and nurturance, with respect to the probability of self-instigated acts directed toward their mothers.

In summary, it seems clear that the characteristic which most clearly distinguishes between the behavior of the blind children and the sighted children is succorance.

In order to answer the second question, we looked for differences in the behavior of the two groups of mothers—particularly their behavior in relation to their children's succorance. Here we found that the mothers of blind and sighted children differed in two ways, although the differences did not quite reach the conventional level of significance:

1. The mothers of the blind children tended to comply with about half of their children's succorant behavior. The mothers of the sighted children, on the other hand, tended to comply either very much or very little with their children's succorant behavior.
2. The mothers of the blind children tended to use refusal and ignoring as their methods of noncompliance, whereas the mothers of the sighted children relied almost totally on the method of refusal and rarely used ignoring.

Finally, in answer to the third question, we found a number of significant relationships between the blind children's behavior and their mothers' behavior. These relationships may be classified into two groups: (a) those which are unique to the blind sample; and (b) those which are common to both the blind and sighted samples.

Those relationships which are unique to the blind sample may be stated as follows: The blind children tended to relate to their mothers' dominance with submission, to their aggression (both sociable and nonsociable) with sociable aggression, to their sociability with sociability, and to their ignoring with succorance. The sighted children, in comparison, tended to relate to their mothers' dominance with succorance, to their aggression (sociable) with submission, and to their succorance with sociability.

Among those relationships common to both the blind and sighted samples, the most significant ones were between the mothers' compliance and the children's sociable aggression and self-reliance. This indicates that mothers who are compliant to their children's succorant behavior tend to have children who are self-reliant and who are not sociably aggressive. Those mothers who are not compliant to their children's succorant behavior tend to have children who are self-reliant but who are sociably aggressive. On the other hand, those mothers who are moderately compliant (an equal amount of compliance and noncompliance) tend to have children who are not self-reliant.

In conclusion, it may be stated that the degree of self-reliance in children can be predicted with greater certainty on the basis of their mothers' compliant behavior than on the basis of whether they are blind or not. This finding supports with concrete behavioral data the general conclusions arrived at by Sommers (1944) and Norris et al. (1957) on the basis of more indirect methods: (a) maternal contact plays an important part in the formation of the blind child's social adjustment; and (b) blind children who experience a "normal" maternal environment tend to make social adjustments similar to those of sighted children of the same age.

APPENDIX A

Combined List of Instigating, Central, and Effect Acts Prepared for the Observers

1. *O assaults P:* This is defined as any attempt at physical injury (e.g. hitting, kicking, biting) which is judged by the observer to be intense enough to inflict at least mild pain. Such acts should be scored even when the intent of O is judged to be friendly. However, patterned non-aggressive assaults such as back slapping in greeting should be considered as O greets P. Physical punishment by an O who has authority to punish P or where O presumed that P has broken a rule should be scored as O reprimands P.
2. *O assaults P's property in the presence of P:* This is defined as any physical attack on P's property such as breaking P's toy or knocking down a tower of blocks which P has built.
3. *O insults P:* This is defined as any derogation of status. It includes teasing, except teasing with sexual connotations, and includes ridicule unless the ridicule is a reprimand.
4. *O threatens P:* This is defined as verbal statements implying that O or some other O will:
    a) assault P
    b) break interaction with P
    c) deny P privilege
    d) report P to authority or threaten with authority figure, real or supernatural, (e.g. "My father will beat you.")
    e) reprimand P
    f) unspecified
5. *O ignores P:* This refers to continuing one's set but being deaf to verbal demands or suggestions on the part of P, not paying attention to physical assault. Ignoring behavior which involves leaving the field is scored as breaks interaction. See also observes passively.
6. *O observes passively:* This consists of watching but not participating in activities or verbal interaction. This includes standing and accepting obvious insults or physical assault or watching someone in difficulty and doing nothing.

7. *O complies:* O does what is suggested or what he is commanded to do.
8. *O breaks interaction with P:* This is defined as a situation where O has been playing or participating in some activity with P and then stops abruptly and leaves the field. This includes turning one's back on P or running away from the situation.
9. *O hides from or avoids P:* This refers to a situation where at P's approach or expected approach O either hides or avoids P. It is distinguished from breaking interaction in that it occurs before interaction takes place.
10. *O helps P:* This is a situation where O gives aid to P without changing the set of P (e.g. fixes P's toy, gives information regarding P's goal or gives suggestions without changing P's set).
11. *O nurtures P:* This is a situation where O gives emotional help to P without changing the set of P. Emotional help includes comforting, reassuring, showing signs of love or affection.
12. *O suggests to P:* O attempts to dominate P by giving him an alternative set which P is ostensibly free to accept or reject. Examples of this include "Would you like to eat dinner now?" or "Would you like to go outside and play?"
13. *O commands P:* This would be a situation where O gives a command for P to change his set and where P is apparently not free to reject it. This would include also behavior such as grabbing P's toy or getting in the way of P, or moving P without physical injury.
14. *O reprimands P:* This is defined as any punishment, physical or verbal, by an O who has authority to issue it. This authority may be derived from O's formal status relationship to P or from reference to rules generally recognized by the group (e.g. rules of the game, or of the primary sample unit, or of the family).
15. *O admits guilt or apologizes:* This includes confession and formal statements of apology (e.g. in our culture "I'm sorry," "pardon me").
16. *O denies guilt, shifts blame, or defies reprimand:* This refers to attempts on the part of O to clear himself, or defiance in the face of reprimand (e.g. refusal to apologize or make restitution). This also includes obvious defiance as a response to a command or suggestion.
17. *O deprecates self:* O criticizes self with derogatory remarks; puts himself in lower status than P.

18. *O arrogates self:* This refers to attempts of O to put himself in higher status than P. This would include boasting statements, (e.g. "I'm bigger than you."). This is a flat statement without proof and does not include a challenge, see category 27. This includes suggesting or commanding with reference to rules when O is not in the appropriate status to do this.

19. *O flatters P:* This includes attempts of O to put P in higher status than himself by boasting of other's status. It also includes praising of P's performance in some activity.

20. *O breaks a rule:* The observer should be careful not to define the situation in terms of its results, that is, not to score as "breaking a rule" only when the child is punished. Data from reprimands given in other situations can be used to get the rules of the society. But one should be careful not to define *the* particular situation by the response.

21. *O asks for help from P:* This is defined as a verbal or gestural request for help. Only clear cases of requests for help should be included, otherwise this category may be difficult to distinguish from categories "O hurts self," or "O encounters appreciable difficulty."

22. *O greets P:* This is defined as a situation in which O makes either a gesture or verbal greeting to P. It includes in our culture such statements as "Hi," "How are you?" "What are you doing." These are often ritualized statements on the part of O. (This situation replaces O attempts to initiate friendly interaction.)

23. *O makes sexual advance to P:* This includes coquettish gestures, provocative gestures, or physical contact with sexual connotations (e.g. hugging, pawing). Also includes sexual teasing where the main purpose seems to be sexual stimulation rather than insult.

24. *O gives up set or stops trying:* This refers to giving up one's set in a noninteractive situation such as after encountering appreciable difficulty.

25. *O is self-reliant:* This refers to performing a task. This may follow appreciable difficulty, asking for help, hurting self, etc.

26. *O imitates P:* This refers to behavior which seems to directly copy the acts and words of someone else who is present. Score as imitates only when behavior cannot be scored in one of the categories given here.

27. *O challenges P to competition:* This is a suggestion to P that he prove to O that he is better than O (e.g. "Show me that you can run faster than I can.").
28. *O accepts challenge or competes with P:* This refers to verbal statements which express O's willingness to try to excel P at some sport; or physical action by O to try to outdo P.
29. *O practices skill:* This refers to solitary behavior of O where he is trying to increase his skill at a task or game without attempting visibly to derogate P's status.
30. *O hurts self:* This is defined as any physical injury as judged by the observer irrespective of whether O shows distress.
31. *O encounters appreciable difficulty:* This is defined as difficulty as judged by the observer irrespective of whether O shows frustration.
32. *O acts hurt:* O cries or shows other indications of hurt feelings.

APPENDIX B

Supplementary Tables to Chapter II

TABLE B1

Rate and Probability of Children's Total Acts Directed to Mother

	Rate of acts			*Probability of acts*		
Category of acts	*Sighted children* ($N = 12$)	*Blind children* ($N = 10$)	*p*	*Sighted children* ($N = 10$)	*Blind children* ($N = 10$)	*p*
Dominance	5.5	10.6	0.04	0.22	0.13	0.05
Nurturance	1.3	0.7	ns	0.05	0.01	0.003
Succorance	6.7	26.2	0.0005	0.21	0.32	0.01
Submission	6.5	15.0	0.02	0.19	0.19	ns
Sociability	3.8	22.6	0.0002	0.16	0.29	0.02
Self-reliance	0.5	0.5	ns	0.02	0.01	ns
Responsibility	0.6	1.9	ns	0.02	0.02	ns
Sociable aggression	0.5	0.7	ns	0.02	0.01	ns
Nonsociable aggression	2.3	2.2	ns	0.10	0.03	0.01
Total	27.7	80.4	0.0002	0.99	1.01	ns

TABLE B2

Rate and Probability of Children's Total Acts

	Rate of acts			*Probability of acts*		
Category of acts	*Sighted children* ($N = 12$)	*Blind children* ($N = 10$)	*p*	*Sighted children* ($N = 11$)[1]	*Blind children* ($N = 10$)	*p*
Dominance	17.9	21.8	ns	0.23	0.15	ns
Nurturance	4.4	2.2	0.05	0.06	0.01	0.0005
Succorance	9.7	36.5	0.0002	0.12	0.26	0.001
Submission	10.4	18.6	0.01	0.14	0.14	ns
Sociability	22.3	45.8	0.004	0.25	0.33	ns
Self-reliance	2.0	2.5	ns	0.03	0.02	ns
Responsibility	0.9	2.8	ns	0.01	0.02	ns
Sociable aggression	3.5	2.4	ns	0.05	0.01	0.009
Nonsociable aggression	7.0	7.9	ns	0.10	0.05	ns
Total	78.1	140.5	0.001	0.99	0.99	ns

[1] This table is based on the total number of acts performed by each child. It was, therefore, possible to include in the analysis one of the sighted children who had been excluded in previous analyses because an insufficient number of his acts had been observed in specific categories.

APPENDIX C

Supplementary Tables to Chapter III—see pages 73-75

TABLE C1

Rank Correlation Matrix of the Relationships between the Behavior of the Children and their Mothers in the Blind and Sighted Samples[1]

	Mothers' behavior						
Children's behavior	*Dominance*	*Succorance*	*Sociability*	*Compliance*	*Sociable aggression*	*Nonsociable aggression*	*Ignoring*
Dominance	−.58 −.32	−.03 .31	.25 −.43	.50 −.27	.13 .05	.06 .28	−.08
Nurturance	−.35 .41	.37 .44	.29 .09	 .32	−.27 −.18	−.16 −.29	−.06
Succorance	.57 −.52	.07 −.01	−.19 −.43	−.29 −.41	.12 .31	−.57 .16	.71*
Submission	−.13 .76*	.42 .33	−.14 −.19	−.64 −.01	.63* −.34	.31 −.52	.19
Sociability	−.39 −.08	.67* −.36	.13 .87**	−.32 .59	.12 .18	.43 −.03	−.61
Self-reliance	.37 .34	.06 .34	−.04 −.16		.29 −.18	−.25 −.18	−.44
Sociable aggression	.42 .01	−.31 −.08	−.56 −.53	−.96*** −.81**	−.09 .39	.20 .70*	.17
Nonsociable aggression	−.31 .13	−.35 −.37	−.17 −.06	−.25 −.36	−.20 .03	.51 .48	.14

[1] The upper and the lower coefficients in each cell are for the sighted and blind samples respectively. The coefficients are based on an *N* of 10 except for the sighted sample coefficients in the Compliance column which are based on an *N* of 7.

* $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE C2
Rank Correlation Matrix of the Relationships within the Behavior of the Mothers in the Blind and Sighted Samples[1]

	Mothers' behavior					
Mothers' behavior	*Dominance*	*Succorance*	*Sociability*	*Compliance*	*Sociable aggression*	*Nonsociable aggression*
Dominance						
Succorance	−.46 .58					
Sociability	−.63* −.25	.35 −.61				
Compliance	−.46 .05	.21 .07	.68 .62			
Sociable aggression	−.33 −.06	.36 −.04	.05 .03	.18 −.33		
Nonsociable aggression	−.55 −.35	.06 −.53	−.05 .07	−.22 −.63*	.20 .57	
Ignoring	−.16	0	−.51	−.42	−.21	−.17

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[1] The upper and the lower coefficients in each cell are for the sighted and blind samples respectively. The coefficients are based on an *N* of 10 except for the sighted sample coefficients in the Compliance column and Compliance row which are based on an *N* of 7.

* $p < .05$; ** $p < .01$.

TABLE C3
Rank Correlation Matrix of the Relationships within the Behavior of the Children in the Combined Sample[1]

Children's behavior	*Dominance*	*Nurturance*	*Succorance*	*Submission*	*Sociability*	*Self-reliance*	*Sociable aggression*	*Nonsociable aggression*
Dominance								
Nurturance								
Succorance		−.59**						
Submission	−.44*	−.04						
Sociability		−.23		.10				
Self-reliance		−.03		.07	−.11			
Sociable aggression	.02	.01	.06	.14		.11		
Nonsociable aggression	.15	.36		−.13	−.43			

(The header "*Children's behavior*" spans the columns from *Dominance* to *Nonsociable aggression*.)

[1] The coefficients are based on the combined sample of 20 children (10 blind and 10 sighted children). Correlations for the combined sample were computed only where our separate correlational analysis of the blind and sighted samples yielded similar correlations (see Appendix C, Table 1, for the separate correlational analysis).

* $p < .05$; ** $p < .01$.

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